APPENDIX F-I

Delineation Reports

APPENDIX F-I.1

Death Valley

Huffman-Broadway Group, Inc.

Environmental Consultants



Investigation of the Presence of Wetlands and Other Waters of the United States DesertXpress Project HUC 8 Death Valley - Lower Amargosa Watershed Draining to Badwater Basin San Bernardino County, California



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Prepared for

DesertXpress Enterprises, LLC 6750 Via Austi Parkway Suite 250 Las Vegas, NV 89119

By

Huffman-Broadway Group, Inc. 828 Mission Avenue San Rafael, CA 94901

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1.0 INTRODUCTION

1.1 Project Purpose and Scope of Work

DesertXpress Enterprises, LLC (DXE) is proposing to construct and operate a dedicated two-tracked high speed passenger railway and associated operations and maintenance facilities between Victorville, California, and Las Vegas, Nevada (DesertXpress Project; Exhibit A, Figure 1). A Draft Environmental Impact Statement was issued for the project in March of 2009 and the Final EIS is nearing completion. A Supplemental Draft EIS has been prepared and will be issued shortly to address certain modifications to the proposed alignment and station locations made by the Applicant, DXE, in response to various comments made on the Draft. The U.S. Department of Transportation, Federal Railroad Administration (FRA) is the lead agency responsible for preparing the project Environmental Impact Statement (EIS).

In preparation for the permit phase of the project, DXE has retained Huffman-Broadway Group, Inc. (HBG) to investigate the presence of wetlands and other waters potentially subject to Corps and EPA regulation under Section 404 of the Clean Water Act (CWA) along the DesertXpress Project's preferred and alternative alignments and study areas for the stations and ancillary facilities.

For the purpose of the jurisdictional delineation study the proposed DesertXpress Project has been divided into six areas using the USGS HUC 8⁻¹ level of watershed classification. The scope of this report is to evaluate the presence or absence of wetlands and waters potentially subject to Corps CWA jurisdiction within the proposed DesertXpress Project alignments and facilities located within the HUC 8 Death Valley - Lower Amargosa watershed, which drains to Badwater Basin (Exhibit A, Figure 2 and Exhibit D). Badwater Basin, an ephemeral dry lake with no hydrological surface water outlet, is in Death Valley, California, and is at the lowest elevation in the United States (- 282 feet msl).

This study was conducted in accordance with *Code of Federal Regulations* (CFR) definitions of jurisdictional waters, the Corps' 1987 *Wetlands Delineation Manual*, the Corps' 2008 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*, and supporting guidance documents. The remaining portions of Section 1.0 provide project contact information, describe the location of the Study Area and provide technical details regarding the general environmental conditions found within the Study Area, including relevant technical information from the Draft EIS regarding water resource data and biological and cultural resource information. Section 2.0 provides regulatory background information and

¹ HUC = U.S. Geological Survey (USGS) Hydrologic Unit Code. The Hydrologic Unit system is a standardized watershed classification system developed by USGS in the mid 1970s. Hydrologic units are watershed boundaries organized in a nested hierarchy by size. They range in size from national regions, to the smaller cataloging units (HUCs), which are roughly equivalent to local watershed.

details regarding the technical criteria and types of field indicators evaluated for during the study. Section 3.0 provides a detailed description of the methods used during this investigation. Section 4.0 provides a description of technical findings and Section 5.0 describes the types of areas found that potentially may be subject to Corps CWA jurisdiction. Section 6.0 is a Clean Water Act jurisdictional analysis using the Rapanos Guidance.

HBG is seeking, on behalf of DXE, a <u>Verified Jurisdictional Determination</u> pursuant to applicable Corps guidance documents.

1.2 Contact Information

Project Owner Contact	Applicant's Agent & Wetland Regulatory Scientist	
DesertXpress Enterprises, LLC 6750 Via Austi Parkway Suite 250 Las Vegas, NV 89119	Huffman-Broadway Group, Inc 828 Mission Avenue San Rafael, California 94901	
<u>Contact</u> : Tom Stone (702) 491-8940 <u>tstone@transmaxgroup.com</u>	<u>Contact</u> : Terry Huffman, Ph.D. (415) 925-2000 <u>thuffman@h-bgroup.com</u>	

1.3 Study Area

The Study Area for this investigation is defined as the area where potential ground disturbing components of the proposed project would occur based on the alternatives identified and analyzed in conjunction with the EIS and Supplemental EIS prepared for the DesertXpress Project. The Study Area encompasses the eastern portion of the DesertXpress Project route Segment 3 Alternative 3B from Halloran Summit to Mountain Pass in San Bernardino County, California (Exhibit A, Figure 3). This portion of DesertXpress Project Segment 3 Alternative 3B comprises approximately 15.1 miles within the I-15 right of way on the north side of the freeway.

1.4 Environmental Setting

The Study Area encompasses those portions of the proposed DesertXpress Project alignment alternative and facilities in and adjacent to the north freeway right of way that lie within the following five HUC-12 sub-watersheds (Exhibit A, Figure 4):

- Halloran Summit
- Rock Tank
- Pachalka Spring-Kingston Wash
- Ord Tank
- Piute Valley

These HUC-12 watersheds are at the southeast boundary of the larger (HUC-8) Death Valley-Lower Amargosa Watershed (HUC 18090203). Seasonal runoff from these HUC-12 watersheds collects in Kingston Wash, just north of I-15 in the Shadow Valley. Kingston Wash flows to its confluence with Salt Creek; Salt Creek flows generally west and north to the Amargosa River west of the Salt Spring Hills and Little Dumont Dunes. Here, the Amargosa flows into Death Valley and terminates in Badwater Basin, an isolated dry lake that is the lowest point on the landscape. All these waters are ephemeral.

1.4.1 Topography

The study area is within the Mojave Desert Geomorphic Province. The Mojave Desert Geomorphic Province is characterized by mountain ranges and hills of moderate relief that are partially buried and separated by broad alluviated basins.

Maximum elevations in the Study Area range from approximately 4,000 feet MSL at Halloran Summit at the west end of the Study Area to 4,730 feet MSL at Mountain Pass at the east end of the Study Area. Lowest elevation is approximately 3,700 feet MSL in the basin between the summits.

1.4.2 Land Use

This section of the DesertXpress route falls within the I-15 transportation corridor. On the south side of I-15, BLM owns an approximately half-mile buffer strip, with Mojave National Preserve, a designated national park unit, adjacent to the south, except in the Mountain Pass area where BLM holds a larger area.

On the north side of the freeway along most of this portion of the route, BLM is the landowner, with land designated as part of the Shadow Valley Desert Wildlife Management Area from near Halloran Springs Road in T15N, R10E eastward through Section 17, T16N, 13E. At Mountain Pass, Molycorp Minerals' Mountain Pass Mine produces high quality rare earth oxides, including cerium, lanthanum, neodymium, praseodymium and europium, for clean energy technologies, advanced water filtration systems, and national defense on BLM land.

1.4.3 Geology and Soils

Halloran Summit

The Halloran Summit area comprises a large body of Tertiary-Mesozoic age granitic rock (gr, TKq) that is overlain by younger Pleistocene age volcanic basalt flows (Qpv, Qeb). The granitic rock body is intruded into an older, Precambrian metamorphic rock unit composed of gneiss (ep \in , p \in g) on the west side of the Halloran Summit. Segment 3 Alternative 3B is underlain by the gneissic rock and younger alluvium (Qal) on the west side of the summit. Younger alluvium is mapped at the Halloran Summit pass but is underlain at relatively shallow depth by granitic and/or volcanic rock. The inactive Halloran fault runs parallel to I-15 in this area.

Halloran Summit – Mountain Pass

In the Shadow Valley between Halloran Summit and Mountain Pass, Segment 3 Alternative 3B would be underlain by younger valley and fan alluvium (Qal). A small exposure of Paleozoic age dolomite (IP/ls, D€g, D€gb1) is on the southwest side of Shadow Valley, and younger lacustrine deposits (Ql) from the Valley Wells lake bed are on the valley bottom. Ascending from Shadow Valley up to Mountain Pass, the segment crosses Pliocene-Pleistocene non-marine sediments (Qc, Qoa) that are along the base of the Mescal Range and Clark Mountain Range that comprise the Mountain Pass area.

Geologic Unit (Symbol[s])	Geologic Age	Description - Soils
Younger alluvial valley and fan sediments (Qal)	Holocene	Unconsolidated valley alluvial deposits of silt, sand, and gravel; alluvial fan deposits.
Younger lacustrine deposits (Ql)	Holocene	Lake and playa sediments including clay, silt, and fine sand; Soda Lake bed sediments.
Older alluvial deposits (Qc, Qoa)	Pleistocene And Plio-Pleistocene	Dissected alluvial gravel, sand, and silt; continental terrace deposits of gravel, sand, silt, and clay.
Marine sedimentary and meta- sedimentary rocks (CM)	Paleozoic - Mississippian	Limestone and dolomite; includes Monte Cristo limestone of Hewett, 1956.
Marine sedimentary and meta- sedimentary rocks (Ds, Dsi)	Paleozoic – Devonian	Sultan limestone of Hewett, 1956, including ironside Dolomite members.
Marine sedimentary and meta- sedimentary rocks (IP/ls, Deg, Degu, Degb ₁)	Paleozoic – Cambrian And Devonian	Dolomite and Limestone with thin interbedded Shale and Sandstone; Goodsprings Dolomite and Carbonate Rocks including Breccia of Hewett, 1956.
Metamorphic rocks (epc, pcg, pcga, pcgc pcgb)	Precambrian	Undifferentiated injection gneiss, schist, granitic gneiss, granite augen gneiss complex.
Granitic rocks (pegr)	Precambrian	Undivided syenite, shonkite, granite stocks, and dikes, including carbonate veins and irregular bodies in Mountain Pass area.

These geologic units and associated soils are described below:

1.4.4 Biological Resources

In the Shadow Valley between Halloran Summit and Mountain Pass, the Study Area crosses disturbed habitats, creosote bush scrub, and saltbush scrub. Joshua tree woodland vegetation occurs between 2,500 and 4,500 feet in areas that receive 6 to 15 inches of rain a year; it has been mapped within the DesertXpress route between Halloran summit and Cima Road and between Cima Road and Mountain Pass. Mesquite bosque habitat has been mapped at Mountain Pass. The entire Mojave Desert is potential desert tortoise habitat. The following is a list of biological resources in the Study Area.

Biological Resources in the Study Area & Vicinity					
Biological Resource	Federal/State/ BLM/HCPStatus	Description	Potential for Occurrence		
Special-Status Plant Special	cies				
Rusby's desert-mallow	-/-/S/NE	One California Natural Diversity Data Base (CNDDB) occurrence 1.5 miles north of project study area at Kingston Wash.	Yes		
Desert pincushion	_/_/_/_	CNDDB occurrences adjacent to alignment at Kingston Wash and at west end of Mountain Pass.	Yes		
Hairy erioneuron	_/_/_/_	One CNDDB occurrence approximately one mile south of project study area at west end of Mountain Pass.	Yes		
Aven Nelson's phacelia	_/_/_/_	One CNDDB occurrence adjacent to alignment at Mountain Pass.	Yes		
Scaly cloak fern	-/-/NE	One CNDDB occurrence on southern edge of Clark Mountain north of alignment at Mountain Pass.	Yes		
Mormon needle grass	_/_/_/_	CNDDB occurrences on southern edge of Clark Mountain north of alignment at Mountain Pass.	Yes		
Nine-awned pappus grass	-/-/NE	One CNDDB occurrence on southern edge of Clark Mountain north of alignment at Mountain Pass.	Yes		
Wright's bedstraw	-/-/S/NE	One CNDDB occurrence on southern edge of Clark Mountain north of alignment at Mountain Pass.	Yes		
Clark Mountain spurge	_/_/_/_	One CNDDB occurrence on southern edge of Clark Mountain north of alignment at Mountain Pass.			
Gilman's cymopterus	-/-/NE	One CNDDB occurrence on southern edge of Clark Mountain north of alignment at Mountain Pass.	Yes		
Sky-blue phacelia	_/_/_/_	One CNDDB occurrence on southern edge of Clark Mountain north of alignment at Mountain Pass.	Yes		
Chamber's physaria	_/_/_/_	One CNDDB occurrence on southern edge of Clark Mountain north of alignment at Mountain Pass.	Yes		
	Speci	al-Status Wildlife Species			
Saratoga Springs pupfish	/SSC//	CNDDB occurrence within 10 miles of project study area. No suitable habitat in project study area.	No		
Banded Gila Monster	/SSC/S/W, NE	No CNDDB occurrences within 10 miles of project study area. Suitable habitat occurs in rocky habitat	Yes		
Desert tortoise	T/T//W, NE	Desert tortoises observed during 2007 surveys. Suitable habitat occurs in washes crossed by I-15.	Yes		

	Biological Resources in the Study Area & Vicinity				
Biological Resource Federal/State/ BLM/HCPStatus Description		Description	Potential for Occurrence		
Bendire's thrasher	/SSC/S/W, NE	Several CNDDB occurrences in project study area. Suitable habitat in Joshua tree woodland.			
Crissal thrasher	/SSC//NE	No CNDDB occurrences within 10 miles of project study area. Suitable habitat in larger washes. Ye			
Golden Eagle	PR/SSC,FP//NE	No CNDDB occurrences within 10 miles of project study area. Suitable nesting habitat in rocky habitat	Yes		
Le Conte's thrasher	/SSC//W, NE	No CNDDB occurrences within project study area. Suitable habitat throughout project study area in desert scrub communities.	Yes		
Prairie falcon	/SSC//NE	No CNDDB occurrences within 10 miles of project study area. Suitable nesting habitat in rocky habitat.	Yes		
Western burrowing owl	/SSC/S/W, NE	E No occurrences within 10 miles of project study area. Suitable habitat occurs throughout project Y study area in desert scrub and agricultural habitats.			
Desert bighorn sheep	/ FP/S/W, NE	CNDDB records indicate suitable habitat within 10 miles of project study area. Suitable habitat does occur within project study area.	Yes		
Hoary bat	/SSC//	One CNDDB occurrence within 10 miles of project study area. No suitable roosting habitat n project study area.	No		
Townsend's big-eared bat	/SSC/S/W, NE	One CNDDB occurrence within 10 miles of project study area. Suitable roosting habitat in project study area.	Yes		

1.4.5 Climate

The Mojave Desert has an arid to semi-arid climate; the area is in the rain shadow of 5,000 to 11,000-foot high mountains west of the area. About 2/3 of average annual precipitation occurs between November and March, when winter storms move east from the Pacific Ocean. Precipitation amounts are higher in the mountains, ranging from about 4 inches annually in lower areas, with precipitation over 12 inches annually in the highest elevations. In the higher mountains, winter precipitation may occur as snow. Precipitation in the summer comes as short, intense, and localized thunderstorms; much of this rain is lost to evapotranspiration, particularly if the storm is a small one. The farther east in the Mojave, summer storms are more frequent, as they arrive from Arizona to the south. (NPS 1999). Annual precipitation ranges from 5 to 10 inches.

1.4.6 Hydrology

Surface water

Ephemeral seasonal runoff from the HUC-12 watersheds in this portion of the DesertXpress route drain north to Kingston Wash just north of I-15 in the Shadow Valley. These watersheds comprise a portion of the larger (HUC-8) Death Valley-Lower

Amargosa Watershed (HUC 18090203). Kingston Wash flows to Salt Creek; Salt Creek flows generally west and north to the Amargosa River, and the Amargosa flows into Death Valley, terminating in Badwater Basin.

Groundwater

Upper Kingston Valley Groundwater Basin (DWR Basin 6-22) is bounded by the Mesquite Mountains on the north, the Ivanpah and Clark mountains on the east, the Shadow Mountains on the west, and Teutonia Peak on the south. The basin underlies a northwest-trending valley. Kingston Wash is in the northwest part of the basin at an elevation of approximately 3,000 feet msl. The principal water-bearing unit in the basin is Quaternary alluvium having a maximum thickness of at least 400 feet. Replenishment of the basin is chiefly from the percolation of runoff through alluvial fan deposits at the base of the Ivanpah and Clark mountains. Groundwater in the younger and underlying older alluvium moves northward towards Kingston Wash and probably discharges as subsurface outflow to the Valjean Valley

1.5 Disclaimer

Huffman-Broadway Group, Inc. has conducted a thorough historical review and site investigation and made a good-faith effort herein to thoroughly describe and document the presence of potential factors that the Corps may consider in determining jurisdiction under their CWA jurisdiction as part of the Corps jurisdictional verification / determination process, however, DXE reserves the right to challenge or seek revision to any areas over which the Corps may assert jurisdiction.

2.0 REGULATORY FRAMEWORK

2.1 Definition of Wetlands and Other Waters of the U.S.

Section 404 of the Federal Clean Water Act authorizes the Corps to regulate activities that discharge dredged or fill material to wetlands and other waters of the United States. As described by EPA's and the Corps' regulations (40 CFR § 230.3(s) and 33 CFR § 328.3(a), respectively), the term "waters of the United States" encompasses the following resources:

- (1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- (2) All interstate waters including interstate wetlands;
- (3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:
 - (i) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
 - (ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
 - (iii) Which are used or could be used for industrial purpose by industries in interstate commerce
- (4) All impoundments of waters otherwise defined as waters of the United States under the definition;
- (5) Tributaries of waters identified in paragraphs (a) (1) through (4) of this section;
- (6) The territorial seas;
- (7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) (1) through (6) of this section.

EPA and the Corps define wetlands as:

...those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. (EPA regulations at 40 CFR § 230.3(t); Corps regulations at 33 CFR § 328.3(b)).

2.2 Limits of Jurisdiction

The following provides the regulatory definitions and criteria followed in determining the geographic extent of potential EPA/Corps jurisdiction as applicable to inland waters.

The geographic limits of relevant federal jurisdiction for non-tidal waters of the U.S. are defined as follows at 33 CFR § 328.4(c):

Non-Tidal Waters of the United States: The limits of jurisdiction in non-tidal waters:

- (1) In the absence of adjacent wetlands, the jurisdiction extends to the ordinary high water mark.
- (2) When adjacent wetlands are present, the jurisdiction extends beyond the ordinary high water mark to the limit of the adjacent wetlands.
- (3) When the water of the United States consists only of wetlands the jurisdiction extends to the limit of the wetland.

The terms "adjacent" and "ordinary high water mark," used in the above definition, are defined at 33 CFR § 328.3 as follows:

The term *adjacent* means bordering, contiguous, or neighboring. Wetlands separated from other waters of the United States by man-made dikes or barriers, natural river berms, beach dunes and the like are "adjacent wetlands." (33 CFR § 328.3(c))

The term *ordinary high water mark* means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas. (33 CFR § 328.3(e))

A site must meet certain water, soil, and vegetation criteria to qualify as a jurisdictional wetland. The Corps' 1987 *Wetlands Delineation Manual* and various regional supplements describe these criteria and the methods used to determine whether they are met and the geographic extent of wetland areas identified in the field.

2.3 Identification of Ordinary High Water Marks (OHWM)

The Corps definition of Ordinary High Water Mark (OHWM) provides the criterion by which the OHWM line can be identified which consists of "*that line on the shore established by fluctuations of water and indirect physical characteristics*" (33 CFR § 328.3(e)). The Corps has developed a delineation manual for the identification of OHWMs within the Arid West Region, entitled *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States, A Delineation Manual* (Lichvar and McColley 2008). Tables 1a and 1b, below provide a summarized listing from the manual of indicators associated with areas that become flood or ponded, but are not dominated by wetland vegetation and the duration of

flooding, ponding and/or near surface soil saturation (≤ 12 inches) is not sufficient to cause hydric soils to form or wetland hydrology conditions to occur.

Tal	Table 1a. Potential Geomorphic Indicators of Ordinary High Water Marks for the Arid West *				
		Potential Geomorphic OHWM Indicators			
	(A) Below OHW	(B) At OHW		(C) Above OHW	
2. C 3. H 4. H 5. C 5. C 6. M 7. S 8. M 9. I 10. C 11. S C 12. C 12. C 13. S 14. H 15. S 16. I 17. A	In-stream dunes Crested ripples Flaser bedding Harrow marks Gravel sheets to rippled sands Meander bars Sand tongues Muddy point bars Long gravel bars Cobble bars behind obstructions Scour holes downstream of obstructions Obstacle marks Stepped-bed morphology in gravel Narrow berms and levees Streaming lineations Dessication / mud cracks Armored mud balls Knick Points	 Valley flat Active floodplain Benches: low, mid, most prominent Highest surface of channel bars Top of point bars Break in bank slope Upper limit of sand-sized particles Change in particle size distribution Staining of rocks Exposed root hairs below intact soil layer Silt deposits Litter (organic debris, small twigs and leaves) Drift (organic debris, larger than twigs) 	1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12.	Desert pavement Rock varnish Clast weathering Salt splitting Carbonate etching Depositional topography Caliche rubble Soil development Surface color/tone Drainage development Surface relief Surface rounding	

* Adapted from A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States, A Delineation Manual (Lichvar and McColley 2008).

Table 1b. Potential Vegetation Indicators of Ordinary High Water Marks for theArid West *				
	Potential Vegeta	tion OHWM Indicators		
	(D) Below OHW	(E) At OHW	(F) Above OHW	
Hydroriparian indicators	 Herbaceous marsh species Pioneer tree seedlings Sparse, low vegetation Annual herbs, hydromesic ruderals Perennial herbs, hydromesic clonals 	 Annual herbs, hydromesic ruderals Perennial herbs, hydromesic clonals Pioneer tree seedlings Pioneer tree saplings 	 Annual herbs, xeric ruderals Perennial herbs, non-clonal Perennial herbs, clonal and non-clonal co-dominant Mature pioneer trees, no young trees Mature pioneer trees w/upland species Late-successional species 	
Mesoriparian indicators	 Pioneer tree seedlings Sparse, low vegetation Pioneer tree saplings Xeroriparian species 	 Sparse, low vegetation Annual herbs, hydromesic ruderals Perennial herbs, hydromesic clonals Pioneer tree seedlings Pioneer tree saplings Xeroriparian species Annual herbs, xeric ruderals 	 Xeroriparian species Annual herbs, xeric ruderals Perennial herbs, non-clonal Perennial herbs, clonal and non-clonal codominent Mature pioneer trees, no young trees Mature pioneer trees, xeric understory Mature pioneer trees w/upland species Late-successional species Upland species 	
Xeroriparian indicators	 Sparse, low vegetation Xeroriparian species Annual herbs, xeric ruderals 	 Sparse, low vegetation Xeroriparian species Annual herbs, xeric ruderals 	 Annual herbs, xeric ruderals Mature pioneer trees w/upland species Upland species 	

* Adapted from A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States, A Delineation Manual (Lichvar and McColley 2008).

2.4 Wetlands Delineation Criteria

The Corps' 1987 *Wetlands Delineation Manual* identifies the key diagnostic criteria for determining the presence of wetlands. These include:

- 1. Wetland Hydrology: Inundation or saturation to the surface during the growing season.
- 2. Hydric Soils: Soils classified as hydric or that possess characteristics associated with reducing soil conditions.
- 3. Predominance of Wetland Vegetation: Vegetation classified as facultative, facultative wet, or obligate according to its tolerance of saturated (i.e., anaerobic) soil conditions.

Specific criteria used to determine the presence or absence of wetland hydrology, soil, and vegetation conditions are described in the sections below.

2.4.1 Wetland Hydrology

The 1987 Corps *Manual* states that wetland hydrology conditions occur when a "site is inundated either permanently or periodically at mean water depths less than or equal to 6.6 feet, or the soil is saturated to the surface at some time during the growing season of the prevalent vegetation." Whether a site meets either of these criteria is determined by the presence of diagnostic indicators of wetland hydrology, which include those listed in Table 2.

Table 2. Wetland Hydrology Indicators(Based on 1987 Corps Manual and Corps Guidance Documents)			
Primary Indicators Secondary Indicators			
Watermarks	Oxidized Rhizospheres Associated with Living Roots		
Drift Lines	Water-Stained Leaves		
Water-Borne Sediment Deposits	FAC-Neutral Test		
Drainage Patterns Within Wetlands	Local Soil Survey Data		

A March 8, 1992, Corps memorandum entitled *Clarification and Interpretation of the 1987 Manual* provides further clarification:

Areas which are seasonally inundated and/or saturated to the surface for a consecutive number of days for more than 12.5 percent of the growing season are wetlands, provided the soil and vegetation parameters are met. Areas wet between 5 percent and 12.5 percent of the growing season in most years may or may not be wetlands. Sites saturated to the surface for less than 5 percent of the growing season are non-wetlands.

Wetland hydrology indicators have also been further defined and described in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (Corps 2008). These indicators are similar to the indicators listed above from the 1987 Corps *Manual* and are presented in Table 3.

Table 3. Wetland Hydrology Indicators for the Arid West (Based on Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0)				
	Primary Indicators (any one indicator is sufficient to make a determination that wetland hydrology is present)	Secondary Indicators (two or more indicators are required to make a determination that wetland hydrology is present)		
G	roup A – Observation of Surface Water	r or Saturated Soils		
A1* – Surface Water	X			
A2 – High Water Table	X			
A3 – Saturation	X			
	Group B – Evidence of Recent I	nundation		
B1 – Water Marks	X (Nonriverine)	X (Riverine)		
B2 – Sediment Deposits	X (Nonriverine)	X (Riverine)		
B3 – Drift Deposits	X (Nonriverine)	X (Riverine)		
B6 – Surface Soil Cracks	X			
B7 – Inundation Visible on Aerial Imagery	X			
B9–Water-Stained Leaves	X			
B10 – Drainage		X		
B11 – Salt Crust	X			
B12 – Biotic Crust	X			
B13 – Aquatic Invertebrates	X			
	Group C – Evidence of Current or Rece	ent Soil Saturation		
C1 – Hydrogen Sulfide Odor	X			
C2 – Dry-Season Water Table		Х		
C3 – Oxidized Rhizospheres along Living Roots	X			
C4 – Presence of Reduced Iron	X			
C6 – Recent Iron Reduction in Tilled Soils	X			
C7 – Thin Muck Surface	X			
C8 – Crayfish Burrows		X		

Table 3. Wetland Hydrology Indicators for the Arid West (Based on Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0)					
	Primary Indicators (any one indicator is sufficient to make a determination that wetland hydrology is present)	Secondary Indicators (two or more indicators are required to make a determination that wetland hydrology is present)			
C9 – Saturation Visible on Aerial Imagery		X			
Group D – Evidence from Other Site Conditions or Data					
D3 – Shallow Aquitard		X			
D5 – FAC-Neutral Test		X			
	tland hydrology indicator described in de land Delineation Manual: Arid West Reg	°			

2.4.2 Hydric Soils

The 1987 Corps *Manual* states that the diagnostic environmental characteristics indicative of wetland soil conditions are met when "soils are present and have been classified as hydric, or they possess characteristics that are associated with reducing soil conditions." According to the Manual, indicators of soils developed under reducing conditions may include:

- 1. Organic soils (Histosols);
- 2. Histic epipedons;
- 3. Sulfidic material;
- 4. Aquic or peraquic moisture regime;
- 5. Reducing soil conditions;
- 6. Soil colors (chroma of 2 or less);
- 7. Soil appearing on hydric soils list; and
- 8. Iron and manganese concretions.

A February 20, 1992, Corps memorandum entitled *Regional Interpretation of the 1987 Manual* states that the most recent version of National Technical Committee for Hydric Soils (NTCHS) hydric soil criteria will be used (to make hydric soil determinations). These soil criteria specify at least 15 consecutive days of saturation or 7 days of inundation (flooding or ponding) during the growing season in most years.

The concept of hydric soils includes soils developed under sufficiently wet conditions to support the growth and regeneration of hydrophytic vegetation. Soils that are sufficiently wet because of artificial measures are included in the concept of hydric soils. Also, soils in which the hydrology has been artificially modified are hydric if the soil, in an unaltered state, was hydric. Some series, designated as hydric, have phases that are not hydric depending on water table, flooding, and ponding characteristics. As indicated above, like the NRCS, the Corps has typically accepted guidance for the identification of hydric soils developed by the National Technical Committee for Hydric Soils (NTCHS). The

NTCHS, a working group organized by NRCS, has developed criteria for identifying and mapping hydric soils throughout the United States and defines a hydric soil as "a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part [of the soil profile]" (http://soils.usda.gov/use/hydric/intro.html). The most recent (2000) version of the NTCHS hydric soils criteria identifies those soils that are likely to meet this definition. These criteria, which are accepted by most state and federal agencies, are as follows (http://soils.usda.gov/use/hydric/criteria.html):

- 1. All Histels except Folistels and Histosols except Folists, or
- 2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Andic, Vitrandic, and Pachic subgroups, or Cumulic subgroups that are:
 - a. Somewhat poorly drained with a water table equal to 0.0 foot (ft) from the surface during the growing season, or
 - b. poorly drained or very poorly drained and have either:
 - (i.) water table equal to 0.0 ft during the growing season if textures are coarse sand, sand, or fine sand in all layers within 20 inches (in), or for other soils,
 - (ii.) water table at less than or equal to 0.5 ft from the surface during the growing season if permeability is equal to or greater than 6.0 in/hour (h) in all layers within 20 in, or
 - (iii.) water table at less than or equal to 1.0 ft from the surface during the growing season if permeability is less than 6.0 in/h in any layer within 20 in, or
- 3. Soils that are frequently ponded for a long duration or a very long duration (7 to 30 days) during the growing season, or
- 4. Soils that are frequently flooded for a long duration or a very long duration (7 to 30 days) during the growing season.

On the basis of computer database searches for soils meeting the second criterion, NRCS has developed hydric soils lists for many parts of the country. Although they are useful for determining whether a particular soil series <u>has the potential to support current hydric</u> <u>soil conditions</u>, caution should be used when using these lists for site-specific hydric soil determinations. Many soils on the lists have ranges in water table depths and other characteristics that allow them to be either hydric or nonhydric depending on landscape position and other site-specific factors (e.g., soil clay content, depth to bedrock). Accordingly, hydric soils lists are good ancillary tools to facilitate wetland determinations, but are not a substitute for onsite investigations.

Field indicators of hydric soils are morphological properties known to be associated with soils that meet the definition of a hydric soil. Presence of one or more field indicators suggests that processes associated with hydric soil formation have taken place on the site being observed. The field indicators are essential for hydric soil identification because

once formed, they persist in the soil during both wet and dry seasonal periods. However, few hydric soil indicators identify soils at a site as being currently hydric in accordance with the NTCHS hydric soils criteria described above. Field indicators of hydric soil conditions are listed in Table 4:

Table 4. Field Indicators of Hydric Soil Conditions(Based on 1987 Corps Manual and Corps Guidance Documents)					
1. Indicators of Historical Hydric Soil Conditions:		2. Indicators of Current Hydric Soil Conditions:			
soils with br features) and d. High organic e. Organic stree f. Iron and mar	dons; e.g., gleyed or low-chroma colors, ight mottles (Redoximorphic l/or depleted soil matrix c content in surface of sandy soils aking in sandy soils nganese concretions n county hydric soils list	a. b. c.	Aquic or peraquic moisture regime (inundation and/or soil saturation for \geq 7 continuous days) Reducing soil conditions (inundation and/or soil saturation for \geq 7 continuous days) Sulfidic material (rotten egg smell)		

The presence of one or more of the field indicators in "1 a, b, c, and/or d" above suggests that historical processes associated with hydric soil development have taken place at a given site. These indicators are useful in determining if soils at a site were historically formed under hydric soil conditions because the indicators persist in soils during both wet and dry periods and may remain for decades and even centuries after changes in site conditions occur that inhibit subsequent wetland development, such as the elimination of wetland hydrology (NRCS 1995). However, only the presence of field indicators "2 a, b, and/or c" confirms that hydric soils occur at a site during the period of observation.

Hydric soil indicators have also been further defined and described in the *Regional* Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (Corps 2008). These indicators are similar to those listed above from the 1987 Corps Manual and are presented below in Table 5.

	Hydric Soil Indicators			
All Soils	Sandy Soils	Loamy & Clayey Soils	for Problem Soils**	
A1* – Histosol	S1 – Sandy Mucky Mineral	F1 – Loamy Mucky Mineral	A9 – 1 cm Muck	
A2 – Histic Epipedon	S4 – Sandy Gleyed Matrix	F2 – Loamy Gleyed Matrix	A10 – 2 cm Muck	
A3 – Black Histic	S5 – Sandy Redox	F3 – Depleted Matrix	F18 – Reduced Vertic	
A4 – Hydrogen Sulfide	S6 – Stripped Matrix	F6 – Redox Dark Surface	TF2 – Red Parent Material	
A5 – Stratified Layers		F7 – Depleted Dark Surface	Other (See Section 5 of the Regional Supplement Version 2.0)	
A9 – 1 cm Muck		F8 – Redox Depressions		
A11 – Depleted Below Dark Surface		F9 – Vernal Pools		
A12 – Thick Dark Surface				

Table 5 Hydrie Sail Indicators for the Arid West

Engineers Wetland Delineation Manual: Arid West Region (Version 2.0).

** Indicators of hydrophytic vegetation and wetland hydrology must be present.

It should also be noted for problematic areas that the 2008 Corps Regional Supplement specifies 14 days continuous ponding as an acceptable indicator of problematic hydric soils (USACE 2008, p. 101).

2.4.3 Prevalence of Wetland Vegetation

Species Classifications

Species classifications (e.g., tolerance of anaerobic soil conditions) are determined by consulting the National List of Plant Species that Occur in Wetlands (Reed 1988) and the relevant regional lists, which are published by FWS' National Wetlands Inventory (NWI). Regional Interagency Review Panels develop the lists by determining species' estimated probability of occurrence in wetlands vs. non-wetlands. Classifications are made by unanimous agreement of the Panel. If the Panel is unable to reach a unanimous decision on the status of a species, "no agreement" (NA) is recorded. If insufficient information exists to determine the status of a species, "no indicator" (NI) is recorded. Species that are not included in the NWI list are assigned a "not listed" (NL) designation in this report. The resulting NWI lists include plants that grow in a range of soil conditions from permanently wet to dry. Species are divided into the following "indicator categories:"

- 1. **"Obligate wetland" (OBL)** species, which, under natural conditions, occur almost always in wetlands (estimated probability >99 percent);
- "Facultative wetland" (FACW) species, which usually occur in wetlands (estimated probability 67 – 99 percent), but are occasionally found in nonwetlands;
- 3. **"Facultative" (FAC)** species, which are equally likely to occur in wetlands or non-wetlands (estimated probability 34 66 percent);
- "Facultative upland" (FACU) species, which sometimes occur in wetlands (estimated probability 1 – 33 percent), but more often occur in nonwetlands; and
- 5. **"Obligate upland" (UPL)** species, which occur in wetlands in other regions, but, under natural conditions, occur almost always in non-wetlands in the region specified (estimated probability >99 percent).

Species that have an indicator status of OBL, FACW, and FAC are typically considered to be adapted for life in anaerobic soil conditions (Corps 1987) and are used as evidence of hydrophytic vegetation when they dominate plant community composition or cover. Despite widespread use of the lists for wetland delineations, it is important to note that wetland indicator species assignments are not based on the results of a statistical analysis of species occurrence. The indicator assignments are approximations of wetland affinity based on a synthesis of submitted review comments, published botanical literature, and the field experience of the members of the Interagency Review Panel. For this reason and because many plants have properties that enable them to occur in a range of microhabitats (i.e., wetlands and non-wetlands), the presence of wetland indicator species is not unequivocal evidence of the presence of wetland hydrology and hydric soils. A positive indicator or indicators of wetlands should be emphasized, such as an assemblage of plants that can only be considered "hydrophytes" when they are growing in water or partly drained hydric soils (not effectively drained hydric soils) (Corps 1987). From the FWS perspective, all species on the NWI plant lists are hydrophytes at one time or another and the wetland indicator status (OBL, FACW, FAC, or FACU) reflects the likelihood that a given individual of a species is a hydrophyte or a certain population of these plants is hydrophytic. While OBL and FACW species are the most reliable plant indicators of wetlands, FAC and FACU species also contain populations of hydrophytes (Tiner 2006).

For the reasons stated above, the 1987 Corps *Manual* does not solely rely on the presence of hydrophytic vegetation to make wetland determinations.

Hydrophytic Vegetation Definitions

The Corps' 1987 *Manual* states that the wetland vegetation conditions are met when the prevalent vegetation (i.e., more than 50 percent of vegetation cover or tree basal area) consists of macrophytes that are typically adapted to sites having wetland hydrologic and soil conditions (e.g., periodic or continuous inundation or soil saturation). Hydrophytic vegetation is defined as "plant life growing in water or on a substrate that is at least

periodically deficient in oxygen as a result of excessive water content" (Cowardin *et al.* 1979). Hydrophytic vegetative species, due to morphological, physiological, and/or reproductive adaptation(s), have the ability to grow, effectively compete, reproduce, and/or persist in anaerobic soil conditions. Positive indicators of the presence of hydrophytic vegetation include:

- 1. More than 50 percent of the dominant species are rated as Obligate ("OBL"), Facultative Wet ("FACW"), or Facultative ("FAC") on lists of plant species that occur in wetlands (see Reed 1988 for California);
- 2. Visual observations of plant species growing in sites of prolonged inundation or soil saturation; and
- 3. Reports in the technical literature indicating the prevalent vegetation is commonly found in saturated soils.

Hydrophytic vegetation indicators have been further defined and described in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (Corps 2008). These indicators include:

- 1. <u>Dominance Test</u>. More than 50 percent of the dominant plant species across all strata are rated OBL, FACW, or FAC.
- 2. <u>Prevalence Index</u>. The prevalence index is 3.0 or less with indicators of hydric soils and wetland hydrology being present.
- 3. <u>Morphological Adaptations</u>. The plant community passes either the dominance test or the prevalence index after reconsideration of the indicator status of certain plant species that exhibit morphological adaptations for life in wetlands.

3.0 DELINEATION METHOD

This study was conducted in accordance with Code of Federal Regulations (CFR) definitions of jurisdictional waters, the Corps' 1987 Wetlands Delineation Manual, the Corps' 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0), A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States, A Delineation Manual, and supporting guidance documents. The following provides an overview of the objective of the delineation approach, how the Study Area is defined, and the methods used to identify and map (delineate) areas potentially subject to Corps jurisdiction under Section 404 of the CWA.

3.1 Objective and Establishment of Study Area Boundary

The objective of this investigation is to identify and map areas potentially meeting the Clean Water Act definition of wetlands and Other Waters of the United States within the potential impact footprint of the DesertXpress Project. This impact footprint, which is encompassed within the Study Area, includes the proposed alignment and any alternative alignment and support facilities such as passenger stations and operations and maintenance facilities (e.g., maintenance yard, power substations, and transmission lines). Temporary construction areas for equipment and materials laydown, new access roads, and borrow areas are also included within the Study Area. The boundary of the Study Area also represents a slightly larger area (increased alignment and facility ROW width by an average of 200 feet) to accommodate potential minor changes in the impact footprint.

3.2 Study Area Reconnaissance

Prior to initiating detailed field survey work, existing land forms within the Study Area that may potentially contain wetlands or other waters of the United States were identified by conducting vehicle and pedestrian on-site reconnaissance inspections during the month of April 2010 in conjunction with review of the following information:

- Aerial photography and satellite imagery of the area;
- USGS topographic mapping;
- NRCS soils mapping;
- Engineer scale topographic mapping of segment alternatives
- USGS National Hydrology Dataset; and
- Preliminary level vegetation mapping and wetland / OHWM data collection efforts conducted during February and March 2008 and September and October 2009 as part of an on-going Federal EIS process by the FRA's EIS contractor.

The above efforts led to the development, in coordination with Corps regulatory staff, and use of the project-specific methods described below.

3.3 Wetlands Identification and Delineation

Field surveys designed to identify the presence or absence of field indicators of wetland vegetation, soils and hydrology conditions were conducted within low-lying landscape features where wetlands could potentially occur. These field surveys were conducted during the months of April, May, and June 2010 after the detailed methodology was reviewed and approved by Corps staff during May 2010.

3.3.1 Dominance of Wetland Vegetation

Presence or absence of a dominance of wetland vegetation / hydrophytes within the Study Area was evaluated using the methodology described in Sections 2.2 and 2.4.3. Indicator status of plants was confirmed by referring to the National List of Plant Species that Occur in Wetlands: 1988 National Summary (Reed). Plant cover data were collected for individual species associated within and immediately adjacent to the landscape features identified during the site reconnaissance survey as having the potential to meet the Corps' technical criteria for wetlands. Plant cover was visually estimated within 3-foot diameter plots at each soil sample location described below and was recorded on a Corps Wetland Determination Data Form – Arid West Region. Copies of completed data forms are provided in Exhibit B2. Subsequently, field data were analyzed to assess whether 50 percent or greater of the dominant species within the area sampled are hydrophytes. Sites that are depressional landforms that do not have a dominance of wetland vegetation forming at least 5 percent cover were not considered to be dominated by hydrophytes and were classified as a potential "other water of the United States" following the methodology described in Section 3.4, below, except if conditions for problematic vegetation were met as described in the Corps' 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0).

3.3.2 Presence of Hydric Soil Indicators

The presence or absence of hydric soil field indicators was evaluated following the methodology described in Section 2.3.2 using the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Corps 2008). At each potential wetland sampling location within the Study Area, hand-dug soil pits were excavated to a minimum of 20 inches or until a limiting layer or standing water is reached. The presence or absence of hydric soil indicators found at each soil pit location was recorded on a Corps Wetland Determination Data Form – Arid West Region. Copies of completed data forms are provided in Exhibit B. For sampling locations where the possibility of problematic hydric soils is found, procedures for the identification of problematic hydric soils as defined by the above described publication were followed.

3.3.3 Presence of Wetland Hydrology Indicators

The presence or absence of wetland hydrology field indicators were assessed following the methodology described in Section 2.3.1 using the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (Corps 2008). The presence or absence of wetland hydrology indicators at each soil pit location was recorded on a Corps Wetland Determination Data Form – Arid West Region. Copies of completed data forms are provided in Exhibit B. For sampling locations where the possibility of problematic hydrology indicators was found, procedures for the identification of problematic hydrology indicators, as defined by the above-described publication, were followed.

3.4 Identification and Delineation of Other Waters

Field surveys designed to identify the presence or absence of field indicators of an ordinary high water mark (OHWM) were conducted within low-lying landscape features where other waters of the United States could potentially occur. These field surveys were conducted during the months of April, May, and June 2010.

HBG identified drainages within each watershed that potentially met the Corps technical criteria for Other Waters of the United States (presence of field indicators of active surface water flow and associated Ordinary High Water Mark [OHWM]) using the following approach based on *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States, A Delineation Manual.*

Initial efforts involved identification of all drainages within the Study Area having the potential for active surface flow. This was accomplished through field reconnaissance and imagery interpretation. Detailed sampling was then conducted to identify and delineated active drainages with an OHWM. This was accomplished by randomly sampling the identified drainages in a stratified manner by geographically dividing the Study Area into HUC 12 watershed units.

Field sampling within each HUC 12 watershed consisted of gathering OHWM data, including the measured width of the OHWM, for 3 to 5 main drainages (> 3 feet), if present, selected at random; and 6 to 10 (depending on watershed size) random samples of minor drainages (\leq 3 feet), if present. Each of the HCC 12 watersheds located within the Study Area was divided into approximate thirds. Then a minimum of, one major drainage and two minor drainages, if present, were sampled within each third of a watershed. Where the length of the watershed along the proposed DesertXpress Project alignment alternative was less than 5 miles, the watershed was divided into approximate halves, instead. If the minor drainages (\leq 3 feet) occurring within each one-third watershed varied in OHWM width by more than 33 percent, sampling was increased in that third of the watershed.

Drainage data for each of the watershed drainages sampled was collected on a standardized field data sheet (Exhibit B). Exhibit A, Figures 5-12 provide examples of the types of field indicators observed within various drainages located along the DesertXpress Project alternative alignments. Each field sampling point was memorialized using a handheld GPS unit with submeter accuracy. Where stormwater flows originated upslope of the side of I-15 opposite the alignment, those drainages were hydrologically cut off by the freeway during construction and channeled into detention basins and / or manmade drainages on that side of I-15. As a consequence, drainages on the proposed alignment side of I-15 were hydrologically cut off from their sources and no

longer technically meet the Corps OHWM criterion. This condition was noted on the field data sheets. Detailed OHWM indicator data for these historical drainage features was not collected.

All drainage data (field and photointerpreted drainage data) are summarized by HUC 12 watershed on the required LA District Excel JD Summary Data Sheet (see Exhibit B). Widths for active drainages identified through photointerpretation are based on an average width calculated from field data. The length of each drainage is based on photointerpretation. Standardized field data sheets, Corps Summary Data Sheets and representative photographs of various drainage features, and are provided in Exhibit B. The field data collected from each watershed was used to aid in the imagery interpretation process described in Section 3.5, below.

3.5 Mapping

Wetland indicator data sample locations and the locations of areas identified during field surveys that are potentially Other Waters of the United States due to the presence of an OHWM were mapped using a hand-held Trimble XT global positioning system (GPS) unit with sub-meter accuracy. This GPS data was incorporated into a Geographic Information System (GIS) and geo-referenced in overlay fashion onto digital orthorectified satellite imagery and/or high resolution aerial photograph depending on availability. Overlays were used to assist in analysis, identification, and digitization of the location and geographic extent of areas that could potentially qualify as waters of the United States. The imagery interpretation process involved the combined use of available imagery, field data, engineer level topographic mapping, field verification of mapped features and best professional judgment to map the geographic extent of areas potentially subject to Corps CWA jurisdiction. Exhibit C presents representative detailed mapping within the Study Area with field sampling points and delineated active linear drainage features with labeling indicating their average OHWM width overlaid onto orthorectified digital imagery. Based on guidance received from Corps staff, only representative ephemeral drainages were mapped within a watershed that drains to an isolated dry lake that has no surface water drainage outlet. Resulting mapping depicts representative ephemeral drainages within the Study Area and the surface water flow path from the Study Area to the isolated dry lake.

4.0 TECHNICAL FINDINGS

The following sections describe the landscape features and field indicators found within the Study Area that provide a technical basis for (a) determining the presence or absence of a potential water of the United States; and (b) defining the geographic extent of any potential water of the United States identified. Two types of landscape features were found that potentially contain waters of the United States. These include:

- 1. Natural drainages
- 2. Manmade drainages

4.1 Field Indicators of Hydric Soils

Based on field observations within the Study Area soil indicators were <u>not</u> found that meet the hydric soils criteria defined by current Corps' regulatory guidance, including the 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). On site observations of surface conditions, including road and channel bank cuts and interpretation of aerial photography revealed two primary soil types, desert pavement and more active wash sediments. On site examination revealed that soils or substrates within both natural drainages and manmade drainages consist of alluvial materials primarily made up of sorted sands and gravel, and are well drained, ranging from moderately well drained to excessively well drained.

4.2 Field Indicators of Wetland Hydrology Conditions

Based on field observations within the Study Area wetland hydrology indicators were <u>not</u> found that meet the wetland hydrology criteria defined by current Corps' regulatory guidance, including the 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). On site observations revealed evidence of flooding within the low-lying natural and manmade drainages. These observations also showed that there was no evidence of ponding and soil saturation for long to very long periods of time. The lack of ponding and soil saturation conditions meeting the wetland hydrology criteria is a direct result of the moderately well drained to excessively well drained alluvial soils.

Although wetland hydrology conditions were not found within the Study Area, the field indicators of active surface water flow or flooding found within natural and manmade drainages were sufficient enough to form Ordinary High Water Marks (OHWM). As indicated in Section 2.0, an OHWM provides a technical basis for (a) determining the presence a potential water of the United States; and (b) defining the geographic extent of potential water of the United States.

The natural and manmade drainages within the Study Area found with an OHWM exhibited the following characteristics which are discussed in detail in the following subsections:

- 1. Identifiable field indicators of surface flow
- 2. Identifiable landscape features that supports surface flow
- 3. Identifiable landscape features with a recognizable OHWM

Exhibit A, Figures 5-12 provides typical examples of field indicators of active surface water flow and OHWMs found within ephemeral drainages occurring within the DesertXpress Project Study Area. Exhibit A, Figures 13-19 provide photographs of various types of drainages observed within the HUC 8 Death Valley - Lower Amargosa watershed.

4.2.1 Field Indicators of Surface Flow

Review of topographic mapping (USGS and Engineer scale) and imagery of the Study Area provided visual indication of the presence of curvilinear depressional land surface features where focused surface water flow could potentially be directed. Linear drainage features associated with road drainage and flood control were also found. Field investigations confirmed the presence of surface flow within a number of these channels or drainages while others lacked evidence / field indicators of active ephemeral surface water flow. No drainages were found to contain evidence of perennial or intermittent surface water flow, and no evidence of subsurface flow was found in the form of spring discharges, artesian flows or indicia of a high groundwater table. Observation of active natural and manmade ephemeral drainages revealed evidence of surface water / hydrologic connectivity with other active drainages within and outside the Study Area. These ephemeral drainages are locally referred to as "desert dry washes." The manmade drainages served to redirect surface flow from altered natural drainages. Indicators of drainages having active surface water flow paths included (1) water marks defined by linear deposits of fine grained sediment, minerals and/or plant debris; (2) bank scour, erosion and/or shelving; (3) deposits of sorted alluvial materials; and (4) flow deposited woody and soft tissue plant debris (Exhibit B2).

Flow-deposited woody and soft tissue plant debris were typically absent in drainages that did not have active surface flow. If woody debris was present, the pieces observed were relatively thick (i.e., greater that ¹/₄ inch) weathered limb or root material or milled posts or lumber. The wood pieces found were randomly placed and were not part of a collective flow line of deposited woody and/or soft tissue plant debris, which would be indicative of an active channel. The historical drainages were found to possess one or more of the same type of indicators found in active drainages, but the indicators found were considerably weathered. Surface flow indicators such as bank scour, erosion and shelving areas had rounded edges in contrast to those found in active drainages having angular edges. Water marks defined by linear deposits of fine grained sediment and minerals, and sorted alluvial materials such as gravels, cobbles and boulders were etched or varnished from weathering. The historical drainages were found to consist of the historical remains of channel drainages that were abandoned due to upslope changes in drainage due to either channel down-cutting or the channel becoming abandoned as the surface drainage became redirected or changed course due to deposition of alluvial material damming the channel flow path. The historical drainages were found to lack

indicators of active flow.

Surface water flow patterns were also found within various portions of the landscape that were relatively flat. These surface flow areas were defined by flow-deposited fine grained sediment or soft tissue plant debris. The visible surface flow pattern at these locations would continue for several feet then disappear either on a relatively flat soil surface or localized depression.

Based on the above technical findings and as documented in Exhibits B and C, drainages were found with indicators of active surface water flows within the Study Area.

4.2.2 Landscape Features that Support Surface Flow

Detailed field surveys identified land surface features that have the potential to convey surface flows. These features included a bed or channel and abutting banks. These physical features were found associated with both active flow areas and historical drainages. These drainage types can be summarized as follows:

- 1. Active drainage channel and abutting banks containing evidence of recent surface flows as indicated by the presence of unweathered sediment material (sand, gravel, cobbles, etc.) with unweathered surfaces, and the presence of flow deposited woody debris and/or soft tissue plant debris.
- 2. Active drainage channel and abutting banks containing evidence of historical surface flows as indicated by the presence of unweathered sediment material (sand, gravel, cobbles, etc.) with unweathered surfaces, but lacked the presence of flow deposited woody debris and/or soft tissue plant debris.
- 3. Historical drainage channels and abutting banks having no evidence of recent surface flow as indicated by weathered sedimentary gravel, cobbles, boulders, erosional or depositional deposits, and the lack of flow deposited woody debris and/ or soft tissue plant debris.

The frequency interval of flow events within drainages with observable plant debris (1 above) and unweathered sediment material is estimated to be within the 1 to 15 year range. Strojan, et al. (1987) found that surface litter decomposition rates for creosote bush and burro bush in the Mojave Desert were 42.5% and 58.4%, respectively over a 54 week period of study. Kemp, et al. (2003) reported a similar one year decomposition rate for creosote bush and a 74% loss within a 41 month period. This lends support to qualitative observations made by one of the preparers of this report, Dr. Terry Huffman, who has observed over 20 + years of delineating wetlands within arid environments that soft plant tissue (i.e., pieces of plant leaves and thin bark) will decompose in arid drainage environments within a 2 to 3 year period. In addition, field observations over these years indicated that small woody stems (<1/4 inch) decompose over many more years, perhaps 10 + years. For older drainages where the surfaces of the sediment material (e.g., sand, gravel, cobbles, etc.) is no longer smoothed by the interaction of surface water flow and transport, but weathered, and lacks flow deposited woody and thin tissue plant debris, the frequency interval likely ranges to well over a decade in shallower

channels to prehistoric times for deeply incised channels (i.e., > 6 feet in desert pavement areas).

The land surface of the Study Area is characterized by the presence of active and inactive alluvial fan systems. Ephemeral drainage channels are found on both types of these alluvial fan types. The majority of the ephemeral channels supporting active surface water flow were narrow, with an average width of less than 3 feet. Active alluvial fans were characterized by sandy soils, a uniform vegetation type, and evidence by surface flow patterns indicative of surface water sheetflow. Narrow channels within these areas were both weakly expressed and discontinuous. This discontinuity indicated that new channels could be formed with each major flood event resulting in the current channels being bypassed and blocked off. Channels >3 feet wide were also found. These channels were considerably deeper that the narrow channels found and were less common when considering the landscape as a whole in relationship to the Study Area. Evidence was found within both of these channel types where previously bypassed cutoff channels where becoming filled with sediment. The specific conditions varied within the Study Area.

Based on the above technical findings, drainages with active surface flow were found within the Study Area with physical features that allow for the conveyance of surface flows.

4.2.3 Landscape Features with a Recognizable OHWM

The desert dry washes with active flow were found to have identifiable features which represented the geographic reach of lateral surface water. These features included channels or beds with evidence of active flow and abutting banks which demarcated the lateral reach or extent of flow. Field indicators of the extent of active flow along the banks included water marks defined by linear deposits of fine grained sediment and/or minerals, bank scour, erosion, and/or shelving, and flow-deposited woody and soft tissue plant debris (Exhibit B).

Based on the above technical findings, the active drainages, described in the above subsections, have recognizable landscape features from which the lateral extent of surface water flow can be geographically delineated. Field indicators of this surface water flow were used to identify the OHWM. Exhibit C shows representative active ephemeral drainages, as described in Section 3.5, Mapping.

4.3 Field Indicators of Wetland Vegetation

Based on field observations within the Study Area a dominance of wetland plant species or hydrophytes was <u>not</u> found. Based on this result the criteria defined by current Corps' regulatory guidance, including the 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) for wetland vegetation was not met.

4.4. Presence of Wetland Vegetation within Natural and Manmade Drainages

Based on field observations within the Study Area, a dominance of wetland plant species or hydrophytes was <u>not</u> found within natural or manmade drainages within the Study Area where active ephemeral drainages were found.

5.0 AREAS POTENTIALLY SUBJECT TO JURISDICTION

This section presents the findings of this delineation with respect to the identification and geographic extent of areas found that could potentially be regulated by the Corps and the EPA as wetlands or other waters of the United States under Section 404 of the Clean Water Act.

5.1 Wetlands

No areas meeting the Corps technical criteria for wetlands were identified within the Study Area. These findings are based on the absence of hydric soil, wetland hydrology, and / or wetland vegetation indicators as required by the Corps' *1987 Manual, the Arid West Regional Supplement*, guidance documents, and regulations.

5.2 Other Waters of the U.S.

Ephemeral drainages or desert dry washes were found within the Study Area that meet the technical criteria to potentially be subject to CWA Section 404 jurisdiction as Other Waters of the United States (Exhibit C). This finding is based on the presence of an OHWM as required by Corps regulations. Length and width measurements of the ephemeral drainages found to contain an observable OHWM are provided by Exhibit B.

6.0 CWA JURISDICTIONAL ANALYSIS

This section analyzes the potential for waters identified within the Study Area to constitute waters of the United States subject to jurisdiction under the CWA. Section 6.1 provides an explanation of the jurisdictional determination process following EPA and Corps guidance. Section 6.2 defines the area to be analyzed (i.e., the Review Area). Section 6.3 analyzes the potential for waters of the United States to be present in the Review Area. Section 6.4 describes any jurisdictional and /or non-jurisdictional waters found. Section 6.5 summarizes the findings of this jurisdictional analysis. Section 6.6 is a disclaimer statement.

6.1 Regulatory Background

Beyond the Corps and EPA regulatory definitions of "waters of the United States" as described in Section 2.0, recent judicial decisions have further limited and refined the scope of CWA jurisdiction with regard to isolated waters and certain wetlands and non-navigable tributaries. Two of these decisions are relevant to this jurisdictional analysis.

First, in Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers, No. 99-1178 (531 U. S. 159; [2001]) (SWANCC), both statutory and constitutional challenges were made to the assertion of CWA jurisdiction over isolated, non-navigable, intrastate waters solely on the basis that those waters were used as habitat by migratory birds. The U.S. Supreme Court in SWANCC rejected the "migratory bird rule," and held that CWA jurisdiction does not exist over "isolated, non-navigable, intrastate waters" where there is no nexus to interstate or foreign commerce.

Second, the U.S. Supreme Court's plurality opinion in *Rapanos v. United States*, 547 U.S. 715 (2006) (*Rapanos*), addressed jurisdiction over waters of the United States under Section 404 of the CWA. The concurring opinion by Justice Kennedy held in pertinent part that waters with a "significant nexus" to "navigable waters" are covered under the CWA. In response to *Rapanos*, on December 2, 2008, USEPA and the Corps issued guidance to EPA regions and Corps districts (the "Rapanos Guidance") to address the jurisdictional scope of the CWA over certain types of waters (i.e., traditional navigable waters, wetlands adjacent to traditional navigable waters, non-navigable tributaries that are relatively permanent, and wetlands that directly abut tributaries). The Rapanos Guidance identifies which waters the agencies will categorically assert jurisdiction over and which will be subject to a case-by-case analysis based on the reasoning of the *Rapanos* opinions to identify whether the water has a "significant nexus" to a "traditional navigable water" (TNW). The Rapanos Guidance focuses only on those definitions of "waters of the United States" in 33 C.F.R. § 328.3(a)(1), (a)(5) and (a)(7).² Neither the Supreme Court nor the Rapanos Guidance draws a bright line with regard to the

(a)(5) Tributaries of waters identified in paragraphs (a)(1)-(4) of this section;

² The Rapanos Guidance covers the following 33 C.F.R. § 328.3(a) definition of "waters of the United States": (a)(1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

⁽a)(7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a)(1)-(6) of this section.

geographic reach of jurisdiction, particularly in drainages where flows are ephemeral and where wetlands are adjacent to, but not directly abutting relatively permanent waters. The Rapanos Guidance provides in pertinent part the following:

- The agencies will assert jurisdiction over non-navigable, not relatively permanent tributaries and their adjacent wetlands where such tributaries and wetlands have a *significant nexus* to a traditional navigable water.
- A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical and biological integrity of downstream traditional navigable waters.
- "Similarly situated" wetlands include all wetlands adjacent to the same tributary.
- Significant nexus includes consideration of hydrologic factors including the following: volume, duration, and frequency of flow, including consideration of certain physical characteristics of the tributary; proximity to the traditional navigable water; size of the watershed; average annual rainfall; average annual winter snow pack.
- Significant nexus also includes consideration of ecologic factors including the following : potential of tributaries to carry pollutants and flood waters to traditional navigable waters; provision of aquatic habitat that supports a traditional navigable water; potential of wetlands to trap and filter pollutants or store flood waters; maintenance of water quality in traditional navigable waters.
- The following geographic features generally are not jurisdictional waters: swales or *erosional features* (e.g. gullies, small washes characterized by low volume, infrequent, or short duration flow)....
 [Rapanos Guidance, at p. 8 (emphasis added)]

According to the Rapanos Guidance, a significant nexus analysis ". . . will assess the flow characteristics and functions of the tributary itself, together with the functions performed by any wetlands adjacent to that tributary," to determine if they significantly affect the chemical, physical and biological integrity of downstream traditional navigable waters. (Rapanos Guidance, p. 8) The analysis will consider both hydrologic and ecologic factors. Hydrologic factors include volume, duration, and frequency of flow, proximity to the TNW, size of the watershed, and average annual rainfall. Ecologic factors include the potential for tributaries to carry pollutants and flood waters to TNWs or to provide aquatic habitat to support a TNW, and the potential for wetlands to trap and filter pollutants or store flood waters. The Guidance states (on p.10), "[w]here it is determined

that a tributary and its adjacent wetlands collectively have a significant nexus with traditional navigable waters, the tributary and all of its adjacent wetlands are jurisdictional."

6.2 Review Area

For the purpose of this analysis, the Study Area used for the delineation process is also to be considered the Review Area. A Review Area as defined by the Rapanos Guidance is the area of interest for the verification of the location and extent of waters of the United States. Exhibit D presents a series of maps that show the Review Area relative to Badwater Basin. Exhibits D1 and D2 show USGS National Hydrography Dataset (NHD) flowlines and arrows that indicate the direction and route of surface water flow from the Review Area toward Badwater Basin; the NHD data are superposed respectively on an aerial photo and on a USGS topographic map. Exhibits D3 and D4 show the extent of the Review Area (also referred to as the Study Area).

6.3 CWA Analysis

Section 5.0 of this report discusses a number of active ephemeral drainages (locally known as desert dry washes) identified and delineated within the Study Area / Review Area that meet the technical criteria of "other waters" *potentially* subject to CWA jurisdiction. Maps showing the geographic extent of these drainages within the Review Area are presented in Exhibit D (Exhibits D1 – D4). The following discussion follows the Corps Approved Jurisdictional Determination Form developed following the *Rapanos* decision.

6.3.1 Are Jurisdictional Waters Present within the Study Area (Rapanos Guidance)?

Table 6 provides a summary of the Rapanos Guidance process for determining jurisdiction over waters of the United States under Section 404 of the CWA.

ſ	Table 6. Summary of Process for Determining Jurisdiction Over Waters of the U.S. Under Section404 of the Clean Water Act Following EPA and Corps Rapanos Guidance*										
"А	pproved JD Form" Categories of	Will Corps Categorically	Corps Will Assert Jurisdiction Based on a Fact- Specific Analysis to Determine Whether Waters Identified Have a Significant Nexus With a TNW								
Potential Waters of the U.S.**		Assert Jurisdiction?	Analysis Based on Significant Nexus Testing	Comments							
1.	Traditional navigable waters (TNWs), including territorial seas, and adjacent wetlands	Yes	Not Applicable (NA)	NA							
2.	Wetlands adjacent to TNWs	Yes	NA	NA							
3.	Relatively permanent waters (RPWs) ³ that flow directly or indirectly into TNWs	Yes	NA	NA							

³ Under the Corps / EPA Rapanos Guidance, a Relatively Permanent Water (RPW) is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

"A	pproved JD Form" Categories of	Will Corps Categorically	Corps Will Assert Jurisdiction Based on a Fact- Specific Analysis to Determine Whether Waters Identified Have a Significant Nexus With a TNW			
Po	tential Waters of the U.S.**	Assert Jurisdiction?	Analysis Based on Significant Nexus Testing	Comments		
4.	Non-RPWs that flow directly or indirectly into TNWs	No	Yes	Jurisdictional if the drainage flows directly or indirectly into a TNW and has a significant nexus with the TNW		
5.	Wetlands directly abutting RPWs that flow directly or indirectly into TNWs	Yes	NA	NA		
6.	Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs	No	Yes	Jurisdictional when considered in combination with the tributary to which they are adjacent and, with similarly situated adjacent wetlands, have a significant nexus with a TNW		
7.	Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs	No	Yes	Jurisdictional when considered in combination with the tributary to which they are adjacent and, with similarly situated adjacent wetlands, have a significant nexus with a TNW		
8.	Impoundments of jurisdictional waters	Generally, impoundment of a water of the U.S. does not affect its jurisdictional status.	NA	 Yes, if: Impoundment created from WOUS Water meets one of the above waters categories Water is isolated with a significant nexus to interstate or foreign commerce (to be elevated to Corps Headquarters for review consistent with Rapanos Guidance) 		
9.	Isolated (interstate or intrastate) waters including isolated wetlands the use, degradation or destruction of which could affect interstate commerce	No		To be elevated to Corps Headquarters for review consistent with Rapanos Guidance		

Table 6. Summary of Process for Determining Jurisdiction Over Waters of the U.S. Under Section

** U.S. Army Corps of Engineers. 2007. Appendix B, Approved JD Form, Section II, in U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook. May 30.

As described in the technical findings of this report (Section 4.0), the active ephemeral drainages identified in the Review Area are not permanent or even seasonal, but rather flow or flood for few hours during heavy precipitation events. The climate data in Section 1.0 indicates that the Review Area receives an annual average rainfall amount of 4 inches. Thus, these ephemeral drainages are non-Relatively Permanent Waters (non-RPWs). (A Relatively Permanent Water is defined in the Rapanos Guidance as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months). Representative drainages that flow to Badwater Basin are shown on Exhibits D3 and D4. These drainages (non-RPWs) are also listed in the Exhibit B field data table. In addition, no areas were found within the

Review Area that meet the Corps criteria for wetlands in the 1987 Corps of Engineers *Wetlands Delineation Manual* and/or the 2008 Arid West Supplement.

Using the Rapanos Guidance analysis as summarized by Table 6, the non-RPWs were determined *not* to fall within any of the categories of potential waters of the U.S., as shown below in Table 7.

	Table 7. Summary of EPA and Corps Rapanos Analysis									
" <u>A</u>	Approved JD Form' Categories of Potential Waters of the U.S.*	Wetlands Present? (acres)	Other Waters of the U.S Present? (acres)	Rationale For Determination if Waters in Review Area are Subject to Corps Jurisdiction under CWA Section 404						
1.	Traditional navigable waters (TNWs), including territorial seas	No	No	Criteria for type of water not met; waters are non-RPWs.						
2.	Wetlands adjacent to TNWs	No	No	Criteria for type of water not met; no wetlands present within Review Area.						
3.	Relatively permanent waters (RPWs) that flow directly or indirectly into TNWs	No	No	Criteria for type of water not met; waters are non-RPWs, but do not flow directly or indirectly into TNWs.						
4.	Non-RPWs that flow directly or indirectly into TNWs	No	No	Criteria for type of water not met; waters are non-RPWs that do not flow directly or indirectly into a TNW.						
5.	Wetlands directly abutting RPWs that flow directly or indirectly into TNWs	No	No	Criteria for type of water not met; no wetlands present within Review Area.						
6.	Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs	No	No	Criteria for type of water not met; no wetlands present within Review Area.						
7.	Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs	No	No	Criteria for type of water not met; no wetlands present within Review Area.						
8.	Impoundments of jurisdictional waters	No	No	Criteria for type of water not met; waters are non-RPWs.						
9.	Isolated (interstate or intrastate) waters including isolated wetlands the use, degradation or destruction of which could affect interstate commerce	No	No	Criteria for type of water not met. See Table 8 for interstate commerce analysis for the Review Area, the drainages connecting the Review Area to Badwater Basin, and Badwater Basin.						

* U.S. Army Corps of Engineers. 2007. Appendix B, Approved JD Form, Section II, in U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook. May 30.

6.3.2 Are There Isolated Waters within the Study Area?

When the non-RPWs identified within the Review Area flow, they flow toward the western boundary of Badwater Basin, an ephemeral dry lake with no outlet (Exhibit D). No substantial nexus to interstate or foreign commerce was found associated with the non-RPWs within the Review Area based on the following fact-specific analysis provided in Table 8 regarding whether the use, degradation, or destruction of the intrastate non-RPWs within the Review Area would affect interstate commerce. On the basis of HBG's analysis, Badwater Basin was found to be: (1) a non-TNW, (2) an intrastate water located entirely within the state of California, and (3) an isolated basin with no hydrologic surface water outlet. No surface water connection to interstate or foreign commerce was found.

	Table 8. Interstate/Foreign Commerce Analysis									
Factors Used to	Could the Use, Degradation or Destruction of the Intrastate non-RPWs within the Review Area,	Fact-Specific Analysis								
Determine Substantial Nexus to Interstate or Foreign Commerce	brainages Connecting the Review Area to Badwater Basin, or Badwater Basin Affect Interstate or Foreign Commerce?	Review Area	Drainages Connecting the Review Area to Badwater Basin	Badwater Basin						
Waters which are or could be used by interstate or foreign travelers for recreational purposes.	No	Given the ephemeral as well as unpredictable nature of surface flows, no recreational use occurs that is surface water dependent. This was confirmed by site inspection, review of remote sensing imagery, and internet search.	Given the ephemeral as well as unpredictable nature of surface flows, no recreational use occurs that is surface water dependent. This was confirmed by site inspection, review of remote sensing imagery, and internet search.	Given the ephemeral as well as unpredictable nature of surface ponding, no recreational uses occur that are surface water dependent. This was confirmed by site inspection, review of remote sensing imagery, and internet search.						
Waters from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.	No	Given the ephemeral as well as unpredictable nature of surface flows, no fish or shellfish habitat is associated with the ephemeral drainages. This was confirmed by site inspection, review of remote sensing imagery, and internet search.	Given the ephemeral as well as unpredictable nature of surface flows, no fish or shellfish habitat is associated with the ephemeral drainages. This was confirmed by site inspection, review of remote sensing imagery and internet search.	Given the ephemeral as well as unpredictable nature of surface ponding, no fish or shellfish habitat is associated with this playa lake. This was confirmed by site inspection, review of remote sensing imagery, and internet search.						
Waters which are or could be used for industrial purposes by No industries in interstate commerce.		Given the ephemeral as well as unpredictable nature of surface flows, the non-RPWs are not used and could not be used for surface- water-dependent industrial purposes, including, but not limited, to mineral extraction, power generation, and agricultural irrigation. This was confirmed by site inspection, review of remote sensing imagery, and internet search.	Given the ephemeral as well as unpredictable nature of surface flows, the non-RPWs are not used and could not be used for surface- water-dependent industrial purposes, including, but not limited, to mineral extraction, power generation, and agricultural irrigation. This was confirmed by site inspection, review of remote sensing imagery, and internet search.	Given the ephemeral as well as unpredictable nature of surface ponding, the waters are not used and could not be used for surface-water- dependent industrial purposes, including but not limited to mineral extraction, power generation, and agricultural irrigation. This was confirmed by site inspection, review of remote sensing imagery, and internet search.						
Waters which are interstate isolated waters.	Not Applicable	Waters are <u>intra</u> state non-RPWs found within the State of California with no nexus to interstate or foreign commerce, as demonstrated by the above analysis.	Waters are <u>intra</u> state non-RPWs found within the State of California with no nexus to interstate or foreign commerce, as demonstrated by the above analysis.	Badwater Basin is an <u>intra</u> state water found within the State of California with no nexus to interstate or foreign commerce, as demonstrated by the above analysis. This isolated basin has no outlet (Exhibits D1 and D2).						
Other factors	Not Applicable	No other factors known to occur.	No other factors known to occur.	No other factors known to occur.						

6.4 Are Non-Jurisdictional Waters Present within the Study Area?

On the basis of the above analysis and findings, no areas were found within the Review Area, drainages connecting the Review Area to Badwater Basin, or Badwater Basin that meet the Corps criteria for wetlands defined in the 1987 Corps of Engineers *Wetlands Delineation Manual* and/or the 2008 Arid West Supplement. The above analysis also found that the Review Area and drainages connecting the Review Area to Badwater Basin contain non-RPWs that are isolated, non-navigable, and wholly intrastate waters with no substantial nexus to interstate or foreign commence. Furthermore, Badwater Basin itself is an isolated, non-navigable and wholly intrastate water with no substantial nexus to interstate or foreign commence. As required, as part of the determination process under the Rapanos Guidance, it should be noted that:

- 1. Prior to the January 2001 Supreme Court decision in SWANCC, some portion of the non-RPWs in the Review Area would likely have been subject to CWA jurisdiction based on the then-existing Migratory Bird Rule (51 F.R. 41217), given the likely presence of migratory waterbirds during ephemeral ponding and the presence of a federal listed endangered species, the desert tortoise (*Gopherus agassizii*)⁴, within the Review Area.
- 2. The waters are isolated with no significant nexus to interstate or foreign commerce and therefore no significant nexus standard analysis for connectivity to a TNW is required by the Rapanos Guidance as non-RPWs are not in a category of water requiring such analysis.

6.5 Jurisdictional Analysis Summary

On the basis of the above analysis and as seen in the maps in Exhibit D and summarized in Table 9, the active ephemeral drainages (non-RPWs or desert dry washes) found within the (1) Review Area, (2) drainages connecting the Review Area to Badwater Basin, and (3) Badwater Basin would be considered non-jurisdictional under the CWA. The non-RPWs within the Review Area are *not* jurisdictional waters of the United States based on the facts that:

- 1. No wetlands were found with the Review Area as there were no areas that met the criteria in the 1987 Corps of Engineers *Wetlands Delineation Manual* and/or the 2008 Arid West Supplement.
- 2. The non-jurisdictional non-RPWs found are isolated waters with no substantial connection to interstate or foreign commerce.

⁴ Under the Migratory Bird Rule (51 F.R. 41217) the presence of or the potential for use by migratory birds and/ or Federally-listed species satisfies the determination requirements.

Table 9. Jurisdictional Analysis Summary									
Was Category of Waters Identified in Study Area?	Nexus to Interstate or Foreign Commerce?	Jurisdictional Water Found?	Non-Jurisdictional Water Found?						
No	No	No	No						
No	No	No	No						
No	No	No	No						
No	No	No	No						
No	No	No	No						
No	No	No	No						
No	No	No	No						
No	No	No	No						
No	No	No	No						
Yes	No	No	Yes <u>Review Area</u> : <u>Non-RPWs</u> <u>Drainages Connecting</u> the Review Area to <u>Badwater Basin:</u> <u>Non-RPWs</u> Badwater Basin: <u>Isolated Water</u>						
	Was Category of Waters Identified in Study Area? No No	Was Category of Waters Identified in Study Area?Nexus to Interstate or Foreign Commerce?No	Was Category of Waters Identified in Study Area?Nexus to Interstate or Foreign Commerce?Jurisdictional Water Found?No						

** Areas that meet the technical criteria for wetlands (collective presence of hydric soil, wetland hydrology and wetland vegetation indicators) or have an Ordinary High Water Mark (OHWM) but have no significant nexus to a TNW or connection to interstate commerce. 33 CFR 328.3(a)(3) states: "All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters (i) which are or could be used by interstate or foreign travelers for recreational or other purposes; or (ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce' or (iii) Which are used or could be used for industrial purpose by industries in interstate commerce"

6.6 Disclaimer

HBG has made a good-faith effort herein to thoroughly describe and document the presence of potential factors that the Corps may consider. Nevertheless, DXE reserves the right to challenge or seek revision to any areas over which the Corps may assert such jurisdiction, as the implementation of the Corps / EPA Rapanos Guidance is further clarified or altered through formal guidance, assertions or disclaimers of jurisdiction over other properties, court decisions, or other relevant actions.

7.0 References

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Exhibit A

Figures

Figure 1	DesertXpress Project Alignment Alternatives
Figure 2	Location of Alignment Alternatives Within HUC-8 Watershed
Figure 3	Location of Study Area
Figure 4	Location of Study Area Within HUC-8 / HUC-12 Watersheds
Figures 5-12	Typical Examples of Field Indicators of Active Surface Water Flow and
-	Ordinary High Water Marks Found Within Ephemeral Drainages
	Occurring Within the DesertXpress Project Study Area.
Figures 13-19	Examples of Drainages Found Within HUC-8 Watershed

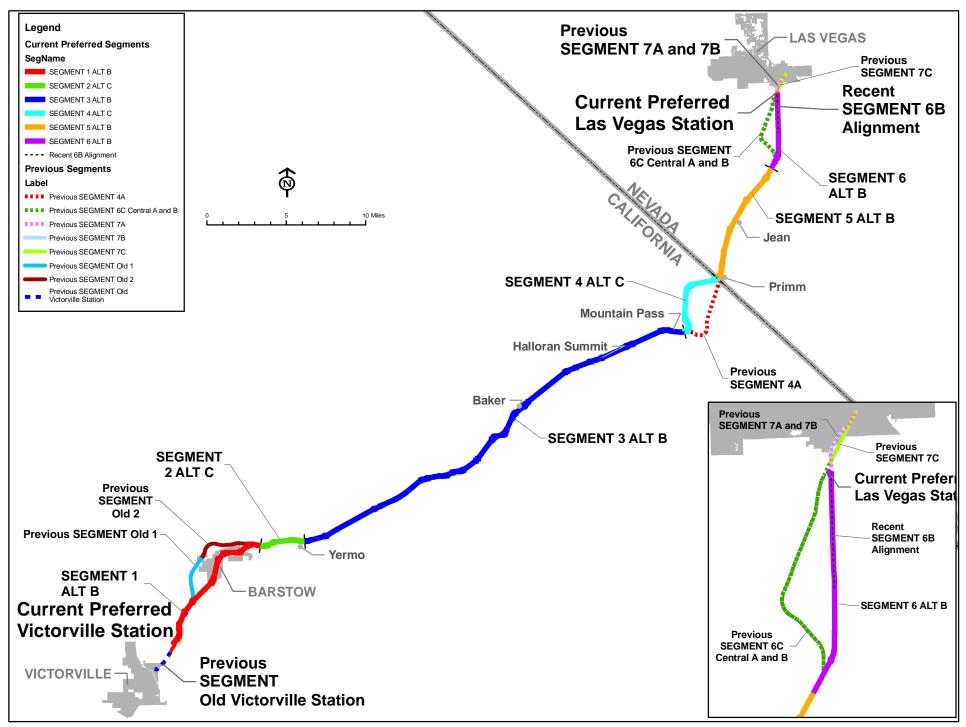


Figure 1. DesertXpress Project Alignment Alternatives F-1.1-46

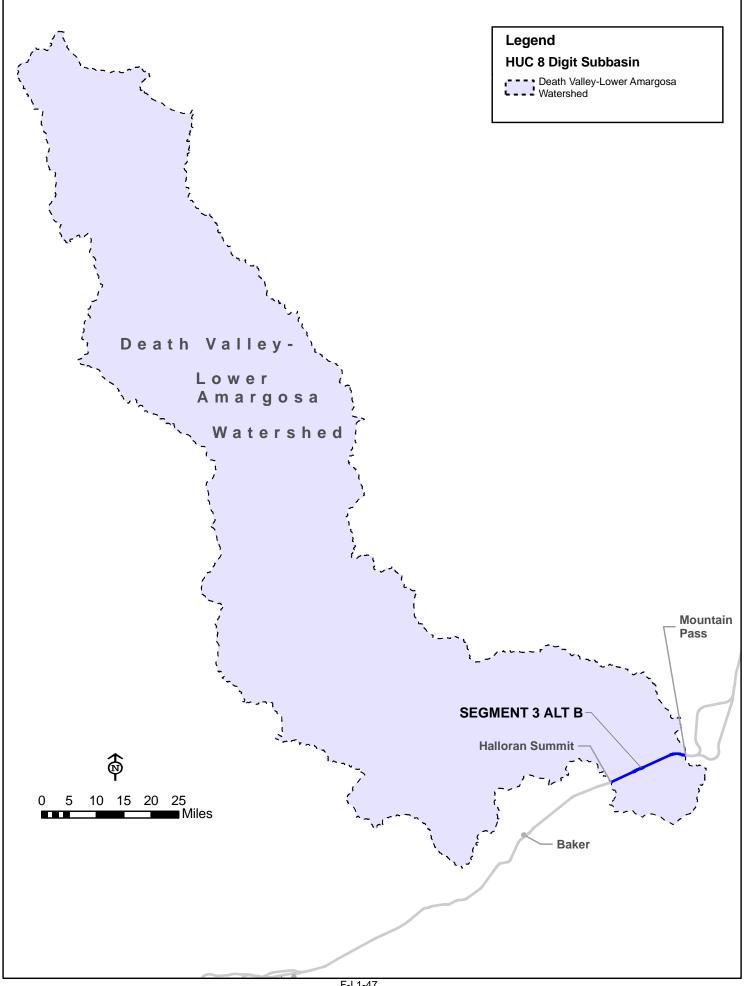


Figure 2. Location Of Alignment Alternatives Within HUC-8 Watershed

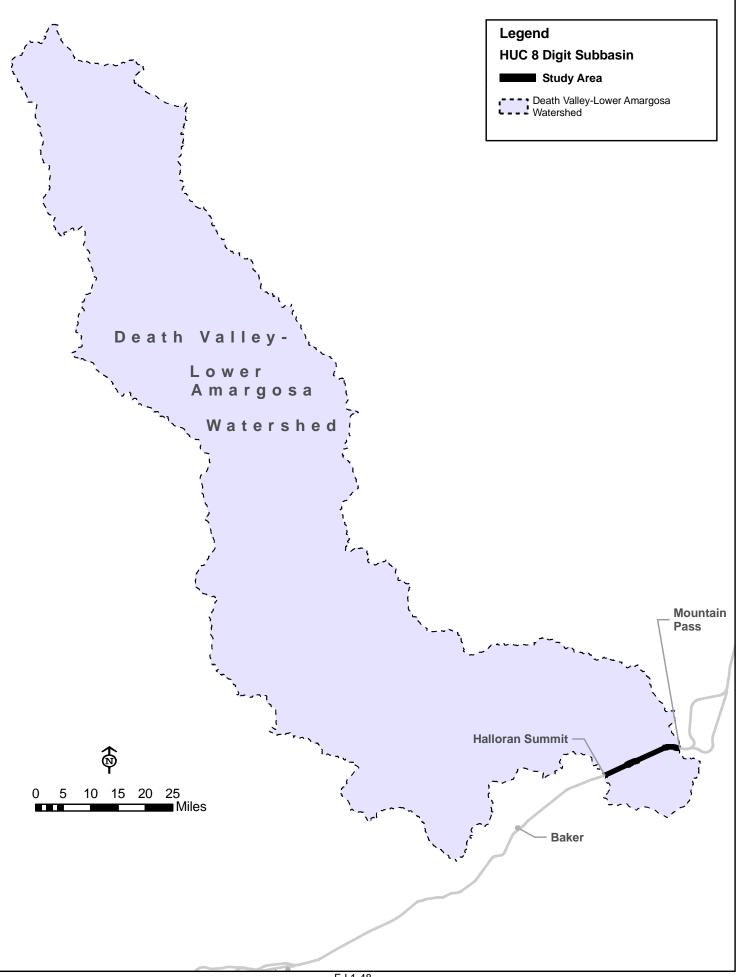


Figure 3. Location of Study Area

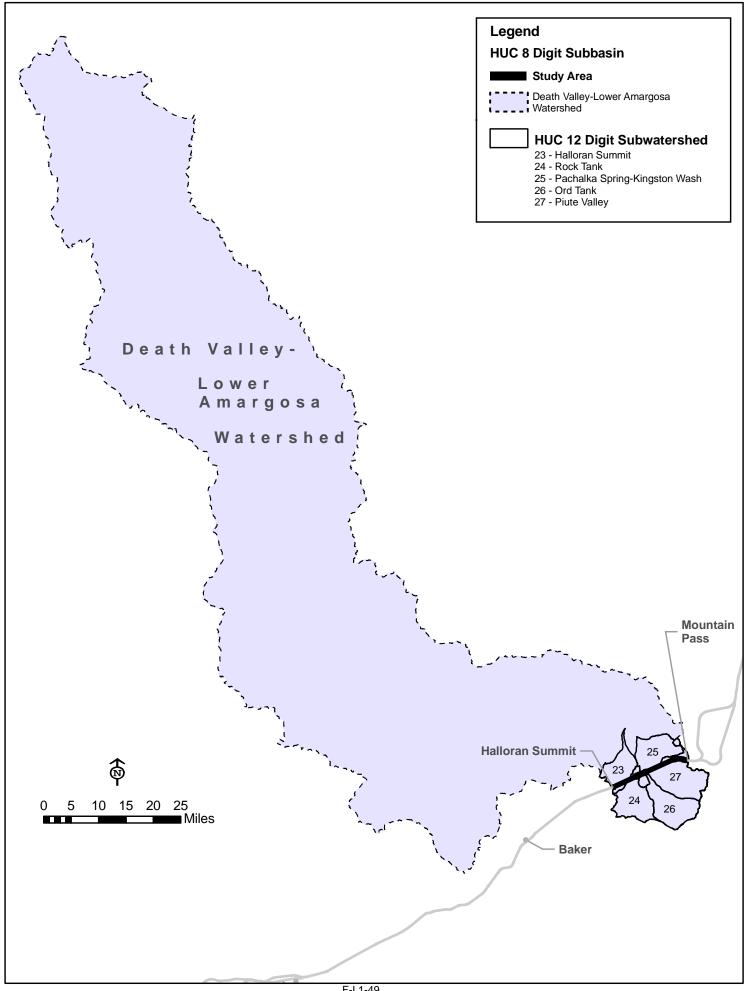


Figure 4. Location of Study Area Within HUC-8 / HUC-12 Watersheds



Exhibit A. Figure 5. Typical examples of field indicators of active surface water flow and Ordinary High Water Marks found within ephemerals drainages occurring within the DesertXpress Project Study Area.



Exhibit A. Figure 6. Typical examples of field indicators of active surface water flow and Ordinary High Water Marks found within ephemerals drainages occurring within the DesertXpress Project Study Area.



Exhibit A. Figure 7. Typical examples of field indicators of active surface water flow and Ordinary High Water Marks found within ephemerals drainages occurring within the DesertXpress Project Study Area.



Exhibit A. Figure 8. Typical examples of field indicators of active surface water flow and Ordinary High Water Marks found within ephemerals drainages occurring within the DesertXpress Project Study Area.



Exhibit A. Figure 9. Typical examples of field indicators of active surface water flow and Ordinary High Water Marks found within ephemerals drainages occurring within the DesertXpress Project Study Area. F-I.1-54



Exhibit A. Figure 10. Typical examples of field indicators of active surface water flow and Ordinary High Water Marks found within ephemerals drainages occurring within the DesertXpress Project Study Area. F-I.1-55

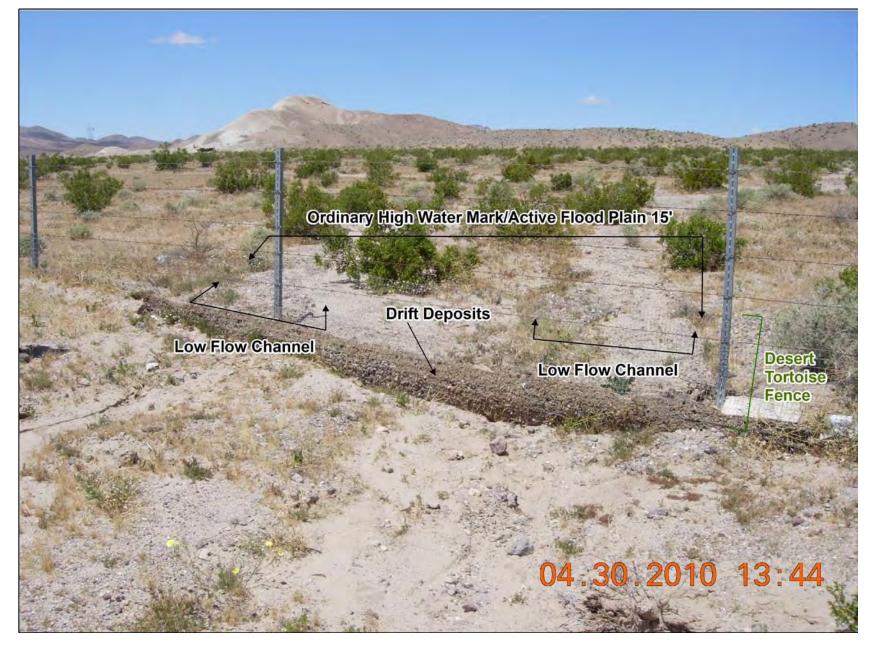


Exhibit A. Figure 11. Typical examples of field indicators of active surface water flow and Ordinary High Water Marks found within ephemerals drainages occurring within the DesertXpress Project Study Area.



Exhibit A. Figure 12. Typical examples of field indicators of active surface water flow and Ordinary High Water Marks found within ephemerals drainages occurring within the DesertXpress Project Study Area.



Exhibit A. Figure 13. Ephemeral drainage within HUC 8 Death Valley Lower Amargosa / HUC 12 Piute Valley Subwatershed



Exhibit A. Figure 14. Ephemeral drainage within HUC 8 Death Valley Lower Amargosa / HUC 12Piute Valley SubwatershedF-1.1-58



Exhibit A. Figure 15. Ephemeral drainage within HUC 8 Death Valley Lower Amargosa / HUC 12 Piute Valley Subwatershed



Exhibit A. Figure 16. Ephemeral drainage within HUC 8 Death Valley Lower Amargosa / HUC 12 Piute Valley Subwatershed F-1.1-59



Exhibit A. Figure 17. Manmade drainage connecting to road culvert within HUC 8 Death Valley Lower Amargosa / HUC 12 Piute Valley Subwatershed



Exhibit A. Figure 18. Manmade drainage connecting to road culvert within HUC 8 Death Valley Lower Amargosa / HUC 12 Piute Valley Subwatershed



Exhibit A. Figure 19. Ephemeral drainage within HUC 8 Death Valley Lower Amargosa / HUC 12 Piute Valley Subwatershed

Exhibit B

Field Data

Exhibit B1 Required Corps Waters Data Summary Table

Exhibit B2 Field Data*

(Exhibit B2 provided on attached CD in PDF format.)

Exhibit B1

Required Corps Waters Data Summary Table

Exhibit B1. Study Area Field Data for Areas Potentially Subject to Corps Jurisdiction, HUC-8 Death Valley-Lower Amargosa, Preferred Route Drainages, Desort Ypross Project

	ess Project		1-		1	1				
	Cowardin_			Linear	Waters	Latitude	Longitude		width	HBG Data
ame	Code	HGM_Code		(ft)	Types	(dd nad83)	(dd nad83)	Local_Waterway	(OHWM)	Field Point
D-23-2	R6	RIVERINE	0.050517		NRPW	35.406595		Halloran Summit	4.50	
D-23-4	R6	RIVERINE	0.103072		NRPW	35.404845		Halloran Summit		23D3
D-23-7	R6	RIVERINE	0.003747	81.6	NRPW	35.404067	-115.790363	Halloran Summit	2.00	
D-23-9	R6	RIVERINE	0.006892		NRPW	35.404000	-115.790650	Halloran Summit	2.00	
D-23-10	R6	RIVERINE	0.007989	174.0	NRPW	35.404026	-115.790103	Halloran Summit	2.00	
D-23-11	R6	RIVERINE	0.007534	218.8	NRPW	35.406436	-115.783398	Halloran Summit	1.50	
D-23-12	R6	RIVERINE	0.006017	262.1	NRPW	35.406301	-115.783152	Halloran Summit	1.00	
D-23-13	R6	RIVERINE	0.007163	312.0	NRPW	35.407191	-115.780687	Halloran Summit	1.00	
D-23-14	R6	RIVERINE	0.011033	480.6	NRPW	35.408771	-115.776383	Halloran Summit	1.00	
D-23-17	R6	RIVERINE	0.008136	354.4	NRPW	35.409559	-115.774347	Halloran Summit	1.00	
D-23-18	R6	RIVERINE	0.018223	793.8	NRPW	35.410955	-115.769995	Halloran Summit	1.00	
D-23-20	R6	RIVERINE	0.008710	379.4	NRPW	35.412004	-115.766846	Halloran Summit	1.00	
D-23-23	R6	RIVERINE	0.006476	282.1	NRPW	35.413143	-115.763782	Halloran Summit	1.00	
D-23-24	R6	RIVERINE	0.057932	504.7	NRPW	35.414762	-115.759039	Halloran Summit	5.00	23MD2
D-23-26	R6	RIVERINE	0.065689	476.9	NRPW	35.416842	-115.753578	Halloran Summit	6.00	
D-23-27	R6	RIVERINE	0.004614	201.0	NRPW	35.416969	-115.753350	Halloran Summit	1.00	
D-23-28	R6	RIVERINE	0.008567	373.2	NRPW	35.417086	-115.753094	Halloran Summit	1.00	
D-23-32	R6	RIVERINE	0.026680	387.4	NRPW	35.417808	-115.750624	Halloran Summit	3.00	
D-23-35	R6	RIVERINE	0.029883	433.9	NRPW	35.418951	-115.747540	Halloran Summit	3.00	
D-23-39	R6	RIVERINE	0.023485	341.0	NRPW	35.420459	-115.743362	Halloran Summit	3.00	23D5
D-23-42	R6	RIVERINE	0.011470	333.1	NRPW	35.420630	-115.743592	Halloran Summit	1.50	
D-23-45	R6	RIVERINE	0.067284	418.7	NRPW	35.421347	-115.740829	Halloran Summit	7.00	23MD1
D-23-49	R6	RIVERINE	0.025436	1108.0	NRPW	35.416254	-115.754798	Halloran Summit	1.00	
D-23-50	R6	RIVERINE	0.003021	131.6	NRPW	35.417368	-115.752623	Halloran Summit	1.00	
D-23-51	R6	RIVERINE	0.004022	116.8	NRPW	35.417346	-115.752890	Halloran Summit	1.50	
D-24-2	R6	RIVERINE	0.049954	435.2	NRPW	35.423378	-115.734832	Rock Tank	5.00	
D-24-3	R6	RIVERINE	0.047050	409.9	NRPW	35.424500	-115.731733	Rock Tank	5.00	
D-24-4	R6	RIVERINE	0.037071	403.7	' NRPW	35.425835	-115.728196	Rock Tank	4.00	
D-24-6	R6	RIVERINE	0.036896	401.8	NRPW	35.427002	-115.724662	Rock Tank	4.00	24MD2
D-24-7	R6	RIVERINE	0.041304	449.8	NRPW	35.428299	-115.721549	Rock Tank	4.00	
D-24-8	R6	RIVERINE	0.085090	741.3	NRPW	35.429419		Rock Tank	5.00	
D-24-11	R6	RIVERINE	0.048176	333.1	NRPW	35.430128			6.30	24MD1
D-24-19	R6	RIVERINE	1.085537	788.1	NRPW	35.433342		Rock Tank	60.00	
D-24-27	R6	RIVERINE	0.130450	710.3	NRPW	35.434921	-115.703878	Rock Tank	8.00	
D-24-28	R6	RIVERINE	0.006360		NRPW	35.434979	-115.704028	Rock Tank	1.50	
D-24-29	R6	RIVERINE	0.011109		NRPW	35.435008			1.50	

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Exhibit B1. Study Area Field Data for Areas Potentially Subject to Corps Jurisdiction, HUC-8 Death Valley-Lower Amargosa, Preferred Route Drainages, DesertXpress Project

	ess Project		A == = =	1	Matana	Latituda	Longitude		sect ald la	
	Cowardin_			Linear	Waters	Latitude	Longitude		width	HBG Data
ame	Code	HGM_Code	· ·	(ft)	Types	(dd nad83)	(dd nad83)	Local_Waterway	(OHWM)	Field Point
D-24-30	R6	RIVERINE	0.005362		NRPW	35.435733			1.50	
D-25-11	R6	RIVERINE	0.417626		NRPW	35.437635		Pachalka Spring-Kingston Wash		25MD2
D-25-21	R6	RIVERINE	0.004800		NRPW	35.439435		Pachalka Spring-Kingston Wash		25MD1
D-25-7	R6	RIVERINE	0.008366		NRPW	35.438486		Pachalka Spring-Kingston Wash		25D3
D-26-1	R6	RIVERINE	0.099210		NRPW	35.441309				26MD1
D-26-3	R6	RIVERINE	0.003733		NRPW	35.441378				26D3
D-27-1	R6	RIVERINE	0.082090		NRPW	35.442760				27MD9
D-27-21	R6	RIVERINE	0.012116		NRPW	35.445740			2.40	
D-27-22	R6	RIVERINE	0.019669	357.0	NRPW	35.445822	-115.671189	Piute Valley	2.40)
D-27-23	R6	RIVERINE	0.005758		NRPW	35.445940			2.40)
D-27-38	R6	RIVERINE	0.013041	236.7	NRPW	35.446847	-115.669222	Piute Valley	2.40)
D-27-45	R6	RIVERINE	0.028645	519.9	NRPW	35.447471	-115.666753	Piute Valley	2.40)
D-27-46	R6	RIVERINE	0.014733	267.4	NRPW	35.447546	-115.666880	Piute Valley	2.40)
D-27-47	R6	RIVERINE	0.020149	365.7	NRPW	35.450340	-115.658814	Piute Valley	2.40)
D-27-48	R6	RIVERINE	0.032722	593.9	NRPW	35.453634	-115.649205	Piute Valley	2.40)
D-27-50	R6	RIVERINE	3.417980	13535.2	NRPW	35.452052	-115.652943	Piute Valley	11.00)
D-27-56	R6	RIVERINE	0.016843	305.7	NRPW	35.458286	-115.636159	Piute Valley	2.40)
D-27-58	R6	RIVERINE	0.027019	490.4	NRPW	35.457910	-115.637210	Piute Valley	2.40)
D-27-60	R6	RIVERINE	0.039135	710.3	NRPW	35.457053	-115.639481	Piute Valley	2.40)
D-27-68	R6	RIVERINE	0.073433	285.6	NRPW	35.466406	-115.613079	Piute Valley	11.20	27M6
D-27-69	R6	RIVERINE	0.077720	305.0	NRPW	35.468121	-115.607698	Piute Valley	11.10)
D-27-70	R6	RIVERINE	0.008116	147.3	NRPW	35.468406	-115.607458	Piute Valley	2.40)
D-27-71	R6	RIVERINE	0.125372	492.0	NRPW	35.468371	-115.607053	Piute Valley	11.10)
D-27-80	R6	RIVERINE	0.022623	410.6	NRPW	35.473306	-115.593187	Piute Valley	2.40)
D-27-83	R6	RIVERINE	0.092704	363.8	NRPW	35.474268	-115.589488	Piute Valley	11.10)
D-27-84	R6	RIVERINE	0.005686	103.2	NRPW	35.474399	-115.589678	Piute Valley	2.40)
D-27-86	R6	RIVERINE	0.404324	1586.7	NRPW	35.474784	-115.585377	Piute Valley	11.10)
D-27-87	R6	RIVERINE	0.395941	1553.8	NRPW	35.475499			11.10)
D-27-88	R6	RIVERINE	0.036134	141.8	NRPW	35.475824	-115.580104	Piute Valley	11.10)
D-27-89	R6	RIVERINE	0.176417		NRPW	35.475044			8.70	
D-27-92	R6	RIVERINE	0.090360		NRPW	35.475374			11.10	
D-27-121	R6	RIVERINE	0.224153		NRPW	35.475765				27MD5
D-27-124	R6	RIVERINE	0.020253		NRPW	35.474341			2.40	
D-27-127	R6	RIVERINE	0.191982		NRPW	35.474122			11.10	
D-27-130	R6	RIVERINE	0.084566		NRPW	35.473446				27D4
D-27-134	R6	RIVERINE	0.037278		NRPW	35.472335			2.40	

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Exhibit B1. Study Area Field Data for Areas Potentially Subject to Corps Jurisdiction, HUC-8 Death Valley-Lower Amargosa, Preferred Route Drainages, DesertXpress Project

	DesertXpress Project											
Waters_N	Cowardin_		Area	Linear	Waters	Latitude	Longitude		width	HBG Data		
ame	Code	HGM_Code	(acres)	(ft)	Types	(dd nad83)		Local_Waterway	(OHWM)	Field Point		
	R6	RIVERINE	0.010986		NRPW	35.472484			2.40	-		
D-27-136	R6	RIVERINE	0.007741	140.5	NRPW	35.472512	-115.556233	Piute Valley	2.40	0		
D-27-137	R6	RIVERINE	0.036545	663.3	NRPW	35.471430	-115.553736	Piute Valley	2.40)		
D-27-138	R6	RIVERINE	0.018353	333.1	NRPW	35.471554	-115.552679	Piute Valley	2.40)		
D-27-139	R6	RIVERINE	0.007614	138.2	NRPW	35.471737	-115.552283	Piute Valley	2.40)		
D-27-140	R6	RIVERINE	0.049609	900.4	NRPW	35.471175	-115.552115	Piute Valley	2.40)		
D-27-141	R6	RIVERINE	0.162190	1177.5	NRPW	35.470665	-115.548718	Piute Valley	6.00	27M1		
D-27-142	R6	RIVERINE	0.045173	231.5	NRPW	35.471240	-115.550452	Piute Valley	8.50	27MD3		
D-27-144	R6	RIVERINE	0.020028	363.5	NRPW	35.470989	-115.549190	Piute Valley	2.40)		
D-27-145	R6	RIVERINE	0.014573	317.4	NRPW	35.470659	-115.546574	Piute Valley	2.00) 27D2		
D-27-156	R6	RIVERINE	0.005464	95.2	NRPW	35.466127	-115.613253	Piute Valley	2.50) 27D8		
D-27-157	R6	RIVERINE	0.143611	568.7	NRPW	35.447192	-115.675613	Piute Valley	11.00	27MD10		
D-27-158	R6	RIVERINE	0.094649	473.9	NRPW	35.446740	-115.675706	Piute Valley	8.70)		
D-27-159	R6	RIVERINE	0.026992	489.9	NRPW	35.448417	-115.664052	Piute Valley	2.40)		
D-27-160	R6	RIVERINE	0.013647	247.7	NRPW	35.448970	-115.663204	Piute Valley	2.40)		
D-27-161	R6	RIVERINE	0.011774	213.7	NRPW	35.454406	-115.647608	Piute Valley	2.40)		
D-27-162	R6	RIVERINE	0.080193	1455.5	NRPW	35.455119	-115.645362	Piute Valley	2.40)		
D-27-163	R6	RIVERINE	0.051945	942.8	NRPW	35.455604	-115.643338	Piute Valley	2.40)		
D-27-164	R6	RIVERINE	0.296584	5383.0	NRPW	35.464012	-115.619006	Piute Valley	2.40)		
D-27-165	R6	RIVERINE	0.116193	2108.9	NRPW	35.475678	-115.575419	Piute Valley	2.40)		
D-27-166	R6	RIVERINE	0.013163	238.9	NRPW	35.475790	-115.570716	Piute Valley	2.40)		
D-27-167	R6	RIVERINE	0.010119	220.4	NRPW	35.443003	-115.679739	Piute Valley	2.00	0		
D-27-170	R6	RIVERINE	0.005344	97.0	NRPW	35.469902	-115.603478	Piute Valley	2.40	0		
D-27-171	R6	RIVERINE	0.008066	146.4	NRPW	35.470154	-115.602173	Piute Valley	2.40)		
D-27-172	R6	RIVERINE	0.163774	2972.5	NRPW	35.469958	-115.602706	Piute Valley	2.40	0		
D-27-173	R6	RIVERINE	0.000996	21.7	NRPW	35.442873	-115.679833	Piute Valley	2.00	0		
		Totals:	9.903974	67350.5								

Exhibit B2

Field Data

(See attached CD in PDF format.)

LIST OF PLANT SPECIES ENCOUNTERED ALONG **DRAINAGES WITHIN THE DESERT XPRESS PROJECT STUDY** AREA

SCIENTIFIC NAME (AS LISTED IN JSA DATA SHEETS)	SCIENTIFIC NAME IF AVAILABLE IN NWI	SYNONYMY (SOURCE: CALFLORA 2010)	COMMON NAME	REGION 0 (NWI) CA	REGION 8 (NWI) NV	STRATUM (H, S, T)
Abronia villosa	NL	=A. v. var. aurita =A. v. var. villosa =Bastardiopsis eggersii	DESERT SAND VERBENA	NL	NL	Herb
Acacia gregii	Acacia gregii	NA	CATCLAW ACACIA	FACU	FACU	Shrub
Achnatherum speciosum	NL	=Stipa speciosa	DESERT STIPA	NL	NL	Shrub
Adenophyllum porophylloides	NL	= Dyssodia porophylloides	SAN FELIPE DOGWEED	NL	NL	Shrub
Allenrolfea occidentalis	Allenrolfea occidentalis	NA	IODINE BUSH	FACW+	FACW	Shrub
Ambrosia dumosa	NL	= Fransera dumosa	BURROWEED	NL	NL	Shrub
Ambrosia eriocentra	NL	= Fransera eriosentra	RAGWEED	NL	NL	Shrub
Amsinckia tesselata	NL	= A. conica = A. cuneata = A. mojavenensis = A. purpusii = A. rostellata = A. setosissima	FIDDLE-NECK	NL	NL	Herb

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SCIENTIFIC	SCIENTIFIC	SYNONYMY	COMMON NAME	REGION	REGION	STRATUM			
NAME (AS	NAME IF	(SOURCE:		0 (NWI)	8 (NWI)	(H, S, T)			
LISTED IN JSA	AVAILABLE	CALFLORA		CA	NV				
DATA SHEETS)	IN NWI	2010)	a second second second second second						
Amsinskia	NL	NA	FIDDLE-NECK	NL	NL	Herb			
intermedeon									
Aristida purpurea	NL	=A. p. var.	PURPLE THREE AWN	NL	NL	Herb			
		fendleriana							
		=A. p. var. longiseta							
		=A. p. var. neallegi							
		=A. p. var. parishii							
		= <i>A</i> . <i>p</i> . var.							
		purpurea							
4 1 .	NI	=A. p. var. wrightii		NI	NIT	II.uh			
Asclepias	NL	=A. c. ssp. greenei $=A. c. ssp.$	CALIFORNIA MILKWEED	NL	NL	Herb			
californica		californica							
Asclepias	Asclepias	NA	SCARLET MILKWEED	FAC	NL	Herb			
curassavica	curassavica								
Atriplex canescens	Atriplex	NA	FOUR-WINGED SALTBUSH	FACU	UPL	Shrub			
nu provouno concestorio	canescens								
Atriplex	NL	NA	MANY-FRUITED	NL	NL	Shrub			
hymenelytra	TIL		SALTBUSH	112	112	Childo			
Atriplex polycarpa	Atriplex	NA	MANY-FRUIT SALTBUSH	FACU	FACU	Shrub			
Antipies poryeurpu	Априел	1111	MINITER OF SALIDUSII	Inco	Inco	Unituo			

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All states and states and states and			TRACTA			
SCIENTIFIC	SCIENTIFIC	SYNONYMY	COMMON NAME	REGION	REGION	STRATUM
NAME (AS	NAME IF	(SOURCE:		0 (NWI)	8 (NWI)	(H, S, T)
LISTED IN JSA	AVAILABLE	CALFLORA		CA	NV	
DATA SHEETS)	IN NWI	2010)				
	polycarpa					
Avena barbata	NL	=A. hirsuta	SLENDER WILD OAT	NL	NL	Herb
Baccharis	NL	NA	SHORT LEAVED	NL	NL	Shrub
brachyphylla			BACCHARIS			
Baccharis	Baccharis	=B. glutinosa	MULE FAT	FACW-	FACW	Shrub
salicifolia	glutinosa	=B. viminea =Molina salicifolia				
Baccharis	Baccharis	NA	DESERT FALSE-WILLOW	FAC	NI	Shrub
sarothroides	sarothroides					
Baileya spp.	NL	NA	DESERT MARIGOLD	NL	NL	Herb
Bouteloua barbata	NL	=B. arenosa =Chrondrosum barbata =C. exile =C. microstachyum =C. polystachyum =C. subscorpiodes	SIX WEEKS GRAMA	NL	NL	Herb
Brassica tournefortii	NL	NA	ASIAN MUSTARD	NL	NL	Herb

and the second								
SCIENTIFIC	SCIENTIFIC	SYNONYMY	COMMON NAME	REGION	REGION	STRATUM		
NAME (AS	NAME IF	(SOURCE:		0 (NWI)	8 (NWI)	(H, S, T)		
LISTED IN JSA	AVAILABLE	CALFLORA		CA	NV			
DATA SHEETS)	IN NWI	2010)						
Bromus	NL	=Anisantha	FOXTAIL CHESS	NL	NL	Herb		
madritensis		madritensis						
		=A. matritensis =Bromus						
		maritensis						
Bromus rubens	NL		RIPGUT BROME	NI	NI	Herb		
Bromus tectorum	NL	=Anisantha	CHEAT GRASS	NL	NL	Herb		
· ·	NIT	tectorum	DOOTING EVENING	NI	NI	ILauh		
Camissonia	NL	=Oenothera decorticans	BOOTH'S EVENING	NL	NL	Herb		
boothii	NIT	=Oenothera	PRIMROSE	NI	NI	Hank		
Camissonia	NL	=Oenothera brevipes	YELLOW CUPS	NL	NL	Herb		
brevipes	NI	NA	DI LIE DAL O VEDDE	NL	NL	Shrub		
Cercidium	NL	NA	BLUE PALO VERDE	INL	INL	Shrub		
floridum	NIT	NA	FOOTIULE DALO VERDE	NL	NL	Tree		
Cercidium	NL	INA	FOOTHILLS PALO VERDE	INL	INL	Tiee		
microphyllum	NI	NA	FREMONT PINCUSHION	NL	NL	Herb		
Chaenactis	NL	INA	FREMUNI PINCUSHION	INL	INL	Hero		
fremontii	NI	=Euphorbia	DATTI ESNAKE WEED	NL	NL	Herb		
Chamaesyce	NL	albomarginata	RATTLESNAKE WEED	INL	INL	Hero		
albomarginata	NI	=C c. var.	DEDDI E DINCUSUION	NL	NL	Herb		
Chaenactis	NL	-C C. Val.	PEBBLE PINCUSHION	INL	INL	Helu		

SCIENTIFIC NAME (AS	SCIENTIFIC NAME IF	SYNONYMY (SOURCE:	COMMON NAME	REGION 0 (NWI)	REGION 8 (NWI)	STRATUM (H, S, T)			
LISTED IN JSA	AVAILABLE	CALFLORA		CA	NV	(11, 5, 1)			
DATA SHEETS)	IN NWI	2010)		Cri					
carphoclinia		carphoclinia							
		= <i>C</i> . <i>c</i> . var.							
CI II		peirsonii		D	E A CI I				
Chenopodium	Chenopodium	NA	WHITE GOOSEFOOT	FAC	FACU	Herb			
album	album	NA		DA CIVIT	DAG				
Chilopsis linearis	Chilopsis	NA	DESERT WILLOW	FACW*	FAC	Tree			
	linearis	= <i>C</i> . <i>b</i> . var.		NI	NIT	II.1			
Chorizanthe	NL	brevicorny	BRITTLE SPINEFLOWER	NL	NL	Herb			
brevicorny		=C. b. var. spathulata		-					
Chorizanthe rigida	NL	=Acanthogonum rigidum	SPINEY-HERB	NL	NL	Herb			
Chrysothamnus	NL	=Ericameria	MOJAVE RABBITBRUSH	NL	NL	Shrub			
paniculatus		paniculatus							
Coleogyne	NL	NA	BLACKBUSH	NL	NL	Shrub			
ramosisssima						-			
Cryptantha	NL	=C. p. var. purposii	WINGED NUT FORGET ME	NL	NL	Herb			
pterocarya		= <i>C. p.</i> var cyclopetera	NOT						
		=C. p. var.							
in an in the second		pterocarya	The public sector and the						
Cylindropuntia	NL	=Opuntia acanthocarpa	BUCKHORN CHOLLA	NL	NL	Shrub			

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SCIENTIFIC NAME (AS	SCIENTIFIC NAME IF	SYNONYMY (SOURCE:	COMMON NAME	REGION 0 (NWI)	REGION 8 (NWI)	STRATUM (H, S, T)
LISTED IN JSA	AVAILABLE	CALFLORA		CA	NV	(11, 5, 1)
DATA SHEETS)	IN NWI	2010)		CA	144	
acanthocarpa		2010)				
Cylindroopuntia	NL	Unknown	No info. available on this	NL	NL	Shrub?
arbuscula**			species. C. arbuscula may = typo			
Cynodon dactylon	Cynodon dactylon	=Capriola dactylon =C. aristiglumis =Panicum dactylon	BERMUDA GRASS	FAC	FAC	Herb
Descurainia sophia	NL	=Sisymbrium Sophia	HERB SOPHIA	NL	NL	Herb
Encelia actoni	NL	=E. virginensis ssp. actoni	ACTON ENCELIA	NL	NL	Shrub
Encelia farinosa	NL	NA	BRITTLE BUSH	NL	NL	Shrub
Encelia frutescens	NL	=Simsia frustescens	BUTTON BRITTLE BUSH	NL	NL	Shrub
Encelia virginensis	NL	= Frutescens var. virginensis	NO COMMON NAME	NL	NL	Shrub
Ephedra nevadensis	NL	NA	NEVADA EPHEDRA	NL	NL	Shrub
Ephedra viridis	NL	NA	MORMON TEA	NL	NL	Shrub
Eriastrum densifolium	NL	NA	SHRUBBY ERIASTRUM	NL	NL	Shrub

	ANCA							
SCIENTIFIC NAME (AS	SCIENTIFIC NAME IF	SYNONYMY (SOURCE:	COMMON NAME	REGION 0 (NWI)	REGION 8 (NWI)	STRATUM (H, S, T)		
LISTED IN JSA	AVAILABLE	CALFLORA		CA	NV	(11, 5, 1)		
DATA SHEETS)	IN NWI	2010)		CA				
Ericameria cooperi	NL	=Haplopappus cooperi	COOPER'S GOLDENBUSH	NL	NL	Shrub		
Ericameria laricifolia	NL	=Haplopappus lacrifolia	TURPENTINE BUSH	NL	NL	Shrub		
Ericameria nauseosa	NL	=E. n. ssp. consimilis =E. n. var. bernardina =E. n. var. ceruminosa =E. n. var. hololeuca =E. n. var. leiosperma =E. n. var. oreophila =E. n. var. washoensis =Chrysothamnus nauseosus	RUBBER RABBITBRUSH	NL	NL	Shrub		
Ericameria paniculata	NL	=Chrysothamnus paniculatus	MOJAVE RABBITBRUSH	NL	NL	Shrub		

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			ANLA			State and the second
SCIENTIFIC	SCIENTIFIC	SYNONYMY	COMMON NAME	REGION	REGION	STRATUM
NAME (AS	NAME IF	(SOURCE:		0 (NWI)	8 (NWI)	(H, S, T)
LISTED IN JSA	AVAILABLE	CALFLORA		CA	NV	
DATA SHEETS)	IN NWI	2010)		1.1.1.1.1.1.1.1.1		
Ericameria pinifolia	NL	=E. ericoides ssp. pinifolia =Haplopappus pinifolius	PINE BUSH	NL	NL	Shrub
Eriogonum deflexum	NL	NA	FLAT TOPPED BUCKWHEAT	NL	NL	Herb
Eriogonum fasciculatum	NL	=E. d. var. baratum =E. d. var. deflexum =E. d. var. nevadense =E. d. var. rectum	CALIFORNIA BUCKWHEAT	NL	NL	Shrub
Eriogonum inflatum	NL	=E. glaucum =E. inflatum var. inflatum	DESERT TRUMPET	NL	NL	Shrub
Erioneuron pulchellum	NL	=Triodia pulchella =Dasyochloa pulchella	FLUFF GRASS	NL	NL	Herb

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LIST OF PLANT SPECIES ENCOUNTERED ALONG										
DRAINAC	DRAINAGES WITHIN THE DESERT XPRESS PROJECT STUDY									
			AREA							
SCIENTIFIC NAME (AS LISTED IN JSA DATA SHEETS)	SCIENTIFIC NAME IF AVAILABLE IN NWI	SYNONYMY (SOURCE: CALFLORA 2010)	COMMON NAME	REGION 0 (NWI) CA	REGION 8 (NWI) NV	STRATUM (H, S, T)				
Eriophyllum ambiguum/E. wallacei [sic]	NL	=E. ambiguum var. ambiguum =E. ambigium var. paleaceum =Antherapeas wallaceei =Eriophyllum wallacei var. rubellum =E. w. var. wallacei =E. w. var. calvescens =Eriophyllum aureum	ANNUAL WOOLLY SUNFLOWER/WALLACE'S WOOLLY DAISY	NL	NL	Herb				
Erodium cicutarium	NL	=Erodium cicutarium ssp. cicutarium =E. cicutarium ssp. jacquinianum	COASTAL HERON'S BILL	NL	NL	Herb				
Eschscholzia minutiflora	NL	=E. coville =E. minutiflora ssp. twisselmanii =E. minutiflora var. darwinensis	PYGMY POPPY	NL	NL	Herb				

SCIENTIFIC	SCIENTIFIC	SYNONYMY	COMMON NAME	REGION	REGION	STRATUM		
NAME (AS	NAME IF	(SOURCE:		0 (NWI)	8 (NWI)	(H, S, T)		
LISTED IN JSA	AVAILABLE	CALFLORA		CA	NV			
DATA SHEETS)	IN NWI	2010)						
		=E. minuscula						
Gilia latifolia	NL	NA	BROADLEAF GILLIA	NL	NL	Herb		
Gutierrezia	NL	NA	MATCHWEED	NL	NL	Shrub		
sarothrae								
Hordeum moines	NL	NA	BARLEY	NL	NL	Herb		
Hordeum murinum	Hordeum	= <i>H. m.</i> ssp.	MOUSE BARLEY	NI	NI	Herb		
	leporinum	glaucum =H. m. ssp. leporinum						
		=H. m. ssp. murinum						
Hymenoclea salsola	NL	=H. m. var. patula =H. m. var. pentalepsis =H. m. var. salsola	CHEESE BUSH	NL	NL	Shrub		
		=H. m. var. salsola						
Krameria parviflora	NL	NA	RHATANY	NL	NL	Shrub		
Larrea tridentata	NL	=L. divaricata ssp. tridentate =L. divaricata =L. tridentata var. arenaria =L. tridentate var.	CREOSOTE BUSH	NL	NL	Shrub		

SCIENTIFIC	SCIENTIFIC	SYNONYMY	COMMON NAME	REGION	REGION	STRATUM		
NAME (AS	NAME IF	(SOURCE:		0 (NWI)	8 (NWI)	(H, S, T)		
LISTED IN JSA	AVAILABLE	CALFLORA		CA	NV			
DATA SHEETS)	IN NWI	2010)						
		tridentata						
Lepidium fremontii	NL	=L. fremontii var. fremontii =L. f. var. stipitatum	DESERT ALYSSUM	NL	NL	Herb		
Lepidium latifolium	Lepidium latifolium	NA	BROAD LEAFED PEPPER- GRASS	FACW	FAC	Herb		
<i>Lepidium</i> spp.	<i>Lepidium</i> spp.	NA	PEPPER-GRASS	FAC	NO to FACW+ depending on species	Shrub		
Lepidium virginicum	Lepidium virginicum	NA	POOR-MAN'S PEPPER- GRASS	FACU	FACU	Herb		
Lepidospartum squamatum	Possibly Baccharis sarothroides	=Lepidospartum squamatum var. palmeri =Lepidospartum squamatum var. squamatum =Baccharis	SCALE BROOM	NL Or FAC	NL	Shrub		

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SCIENTIFIC	SCIENTIFIC	SYNONYMY	COMMON NAME	REGION	REGION	STRATUM			
NAME (AS	NAME IF	(SOURCE:		0 (NWI)	8 (NWI)	(H, S, T)			
LISTED IN JSA	AVAILABLE	CALFLORA		CA	NV				
DATA SHEETS)	IN NWI	2010)							
		sarathroides var. pluricephala =Lepidospartim squamatum var.							
		obtectum	and the second						
Leptochloa uninervia	Leptochloa uninervia	NA	MEXICAN SPRANGLETOP	FACW	FACW	Herb			
Leymus triticoides	Elymus triticoides	=Elymus triticoides =E. condensatus var. triticoides =E. orcuttianus =E. triticoides var. pubescens	VALLEY WILD RYE	FAC+	FAC+	Herb			
Lupinus concinnus	NL	=L. c. var. pallidus =L. c. var. orcutti =L. c. var. orcutti =L. c. var. concinnus =L. c. var. agardhianus =L. c. ssp. orcuttii =L. c. ssp. optatus =L. pallidus =L. agardhianus	ELEGANT LUPINE	NL	NL .	Herb			

SCIENTIFIC	SCIENTIFIC	SYNONYMY	COMMON NAME	REGION	REGION	STRATUM			
NAME (AS	NAME IF	(SOURCE:		0 (NWI)	8 (NWI)	(H, S, T)			
LISTED IN JSA	AVAILABLE	CALFLORA		CA	NV				
DATA SHEETS)	IN NWI	2010)							
Lycium andersonii	NL	=L. a. var. andersonii	ANDERSON THORNBUSH	NL	NL	Shrub			
3		=L. a. var. deserticola							
Lycium cooperi	NL	NA	PEACH THORN	NL	NL	Shrub			
Lycium parishii	NL	NONE	PARISH'S DESERT THORN	NL	NL	Shrub			
Malacothrix coulteri	NL	= Zollikoferia eluiensis = M. var. cognate	SNAKE'S HEAD	NL	NL	Herb			
Malacothrix glabrata	NL	= M. californica var. glabrata	DESERT DANDELION	NL	NL	Herb			
Malva neglecta	NL	NA	COMMON MALLOW	NL	NL	Herb			
Mentzelia spp.	NL	NA	STICK LEAF	NL	NL	Herb			
Mimulus flemingii		=M. parviflorus	FLEMING MONKEYFLOWER	FACU-	NL	Herb			
Mimulus fremontii	Mimulus glabratus	=M. subsecundus eunanus fremontii =Mimulus glabratus ssp. fremontii	FREMONT'S MONKEYFLOWER	OBL	OBL	Herb			

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SCIENTIFIC	SCIENTIFIC	SYNONYMY	COMMON NAME	REGION	REGION	STRATUM
NAME (AS	NAME IF	(SOURCE:		0 (NWI)	8 (NWI)	(H, S, T)
LISTED IN JSA	AVAILABLE	CALFLORA		CA	NV	
DATA SHEETS)	IN NWI	2010)				
Oenethera	NL	=O. d. ssp. cognate	BIRDCAGE EVENING	NL	NL	Herb
deltoides		=O. d. ssp.	PRIMROSE			
	7	deltoides =0. d. ssp. howellii				
		=0. d. ssp. nowelli=0. d. ssp. piperi				
		=0. d. var.				
1 martine and		cineracea			_	
Olea europea	NL	NA	OLIVE TREE	NL	NL	Tree
Opuntia basilaris	NL	NA	BEAVERTAIL CACTUS	NL	NL	Shrub
Parkinsonia	Parkinsonia	NA	JERUSALEM -THORN OR	FACW*	NI	Tree
aculeata	aculeata		PALO VERDE			
Pectocarya	NL	= <i>P. penicillata</i> var.	CHUCKWALLA COMBSEED	NL	NL	Herb
heterophylla [sic]		heterocarpa				
*						
=P. heterocarpa			a manufacture and the second			
Pectocarya	NL	=P. gracilis	NUTTED BROAD COMB	NL	NL	Herb
platycarpa		=P. linearis				
Phacelia distans	NL	= P. cinera	COMMON PHACELIA	NL	NL	Herb
		= P. scabrella				
		= P. distans var.				

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SCIENTIFIC	SCIENTIFIC	SYNONYMY	COMMON NAME	REGION	REGION	STRATUM
NAME (AS	NAME IF	(SOURCE:		0 (NWI)	8 (NWI)	(H, S, T)
LISTED IN JSA	AVAILABLE	CALFLORA		CA	NV	
DATA SHEETS)	IN NWI	2010)				
and the second s		austalis				
Phacelia fremontii	NL	=P. hullii	FREMONT'S PHACELIA	NL	NL	Herb
Plantago ovata	NL	NA	DESERT INDIAN WHEAT	NL	NL	Herb
Pluchea sericea	Pluchea sericea	NA	ARROW WEED	FACW	FACW	Shrub
Polypogon	Polypogon	NA	ANNUAL RABBIT-FOOT	FACW+	FACW+	Herb
monspeliensis	monspeliensis		GRASS			
Populus fremontii	Populus		FREMONT'S	FACW	FACW*	Tree
	fremontii		COTTONWOOD			
Prosopis	Prosopis	=P. glandulosa var.	HONEY MESQUITE	FACU	NI	Shrub
glandulosa	juliflora	torreyana			1	
		=P. juliflora var. torreyana		_		
		= P. ordorata	the second second second			
Pucinella lemonni	Pucinella	NA	LEMON'S ALKALI GRASS	FAC	FACW*	Herb
	lemonni					
Rafinesquia	NL	NA	CALIFORNIA CHICORY	NL	NL	Herb
neomexicana						
Rumexhymenose	NL	NA	WILD RUBARB	NL	NL	Herb
palus						
Salazaria	NL	NA	BLADDERSAGE	NL	NL	Shrub

And the second second second			ANCA			Service Street
SCIENTIFIC NAME (AS	SCIENTIFIC NAME IF	SYNONYMY (SOURCE:	COMMON NAME	REGION 0 (NWI)	REGION 8 (NWI)	STRATUM (H, S, T)
LISTED IN JSA	AVAILABLE	CALFLORA		CA	NV	
DATA SHEETS)	IN NWI	2010)				
mexicana						
Salix exigua	Salix exigua	NL	SANDBAR WILLOW	OBL	OBL	Shrub
Salix gooddingii	Salix gooddingii		GOODDING WILLOW	OBL	FACW	Tree
Salsola pestifer	Salsola pestifer	NA	RUSSIAN THISTLE	FACU	FACU	Herb
Salsola tragus**	Salsola kali/ Salsola pestifer	=S. australis =S. iberica =S. kali var. temuifoli =S. pestifer =S. kali var. tenuifolia =S. kali var. tragus =S. ruthenica	RUSSIAN THISTLE	FACU*/ FACU	FACU/ FACU	Herb
Salvia columbariae	NL	= S. c. var. columbariae =S. c. var. ziegleri	CHIA	NL	NL	Herb
Salvia dorrii	NL			NL	NL	Shrub
Schismus arabicus	NL	NA	MEDITERRANEAN GRASS	NL	NL	Herb
Schismus barbatus	NL	= Festuca barbata = S. calycinus	MEDITERRANEAN GRASS	NL	NL	Herb

and the second		a second a second	ANLA		and the second second	
SCIENTIFIC	SCIENTIFIC	SYNONYMY	COMMON NAME	REGION	REGION	STRATUM
NAME (AS	NAME IF	(SOURCE:		0 (NWI)	8 (NWI)	(H, S, T)
LISTED IN JSA	AVAILABLE	CALFLORA		CA	NV	
DATA SHEETS)	IN NWI	2010)				
Senna armata	NL	= Cassia armata	DESERT SENNA, SPINY SENNA	NL	NL	Shrub
Sisymbrium altissimum	Sisymbrium altissimum	NA	TALL TUMBLE MUSTARD	FACU	FACU-	Herb
Spharalcea ambigua	NL			NL	NL	Shrub
Stanleya pinnata	NL	NA	DESERT PRINCE'S PLUME	NL	NL	Herb
Stephanomeria exigua	NL	NA	SMALL WIRELETTUCE	NL	NL	Herb
Stephanomeria pauciflora	NL	=S. p. var. parishii =S. p. var. pauciflora =S. runcinata var. parishii =S. cinerea =S. lygoclesmoides =S. neomexicana =Lygodesmia pauciflora =Ptiloria pauciflora	DESERT STRAW	NL	NL	Herb

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SCIENTIFIC	SCIENTIFIC	SYNONYMY	COMMON NAME	REGION	REGION	STRATUM
NAME (AS	NAME IF	(SOURCE:		0 (NWI)	8 (NWI)	(H, S, T)
LISTED IN JSA	AVAILABLE	CALFLORA		CA	NV	
DATA SHEETS)	IN NWI	2010)				
Stephanomeria	NL	NA	NL	NL	NL	Herb
virgata						
Tamarix aphylla	Tamarix aphylla	NA	ATHEL TAMARISK	FACW-	FACW	Tree
1.28						
Tamarix	Tamarix	NA	SALTCEDAR	FAC	FACW	Shrub
ramosissima	ramosissima					
Thamnosma	NL	NA	TURPENTINE BROOM	NL	NL	Shrub
montana						
Triticum aestivum	NL	= T. hybernum	COMMON WHEAT	NL	NL	Herb
1		= T. macha = T. sativum				
		= T.				
		sphaerococcum				
		= T. vulgare			the second stands	
Typha angustifolia	Typha	NA	NARROW LEAF CATTAIL	OBL	OBL	Herb
	angustifolia					
Ulmus pumila	NL	NONE	SIBERIAN ELM	NL	NL	Tree
Washingtonia	Washingtonia	NA	CALIFORNIA FAN PALM	FACW	NO	Tree
filifera	filifera					
Yucca brevifolia	NL	=Y. jaegeriana	JOSHUA TREE	NL	NL	Tree
Yucca schidigera	NL	=Y. californica	MOJAVE YUCCA	NL	NL	Shrub

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LIST OF PLANT SPECIES ENCOUNTERED ALONG									
DRAINAGES WITHIN THE DESERT XPRESS PROJECT STUDY									
AREA									
SCIENTIFIC	SCIENTIFIC	SYNONYMY	COMMON NAME	REGION	REGION	STRATUM			
NAME (AS	NAME IF	(SOURCE:		0 (NWI)	8 (NWI)	(H, S, T)			
LISTED IN JSA	AVAILABLE	CALFLORA		CA	NV				
DATA SHEETS)	IN NWI	2010)							

=Y. macrocarpa =Y. mohavensis * = J.S.A. probably made a typographical error for this species.

**Using JSA taxonomy (*S. tragus*) we determined that in 1988, when the wetland manual was produced, this species could have been either *S. kali* (FACU*) or *S. pestifer* (FACU) (Region O), or FACU for both in Region 8.

NI = Not Indicated.

NL = Not Listed in NWI 1988.

Sources:

Calflora Database. 2010. Calflora Database was developed by the United States Forest Service working in collaboration with U.C. Berkeley. Available at: <u>http://www.calflora.org/</u>

National Wetlands Inventory and US Fish And Wildlife Service. 1988. National List of Plant Species that Occur in Wetlands. Compiled by Porter B. Reed, Jr., National Ecology Research Center, US Fish and Wildlife Service, St. Petersburg, Florida. In cooperation with US Army Corps of Engineers, US Environmental Protection Agency, and US Soil Conservation Service.

Exhibit B2

DesertXpress Field Data For Death Valley-Lower Amargosa Watershed (HUC 18090203)

HBG Watershed Number	HUC 12 Watershed Name	HBG Field Data	ICF Jones & Stokes Field Data	Comments
23	Halloran Summit	Yes	Yes	
24	Rock Tank	Yes	Yes	
25	Pachalka Spring-Kingston Wash	Yes	No	
26	Ord Tank	Yes	Yes	
27	Piute Valley	Yes	Yes	

Huffman-Broadway Group

Field Data Forms

For **DesertXpress**

HUC 12 Watershed Halloran Summit

HBG Watershed ID # 23

Within Death Valley-Lower Amargosa Watershed (HUC 18090203)

DesertXpress

Field Notebook

HBG Watershed ID # ____

Watershed Name: Halloran Summit

If found, please return to:

George Ball Huffman-Broadway Group, Inc. 828 Mission Avenue San Rafael, California 94901 415.925.2000 gball@h-bgroup.com

Return Postage Guaranteed

				,]
	(C) Above OHW	 Desert pavement Rock varnish Rock varnish Clast weathering Salt splitting Salt splitting Carbonate etching Depositional topography Caliche rubble Soil development Surface color/tone Drainage development Surface rounding 			(F) Above OHW	 Annual herbs, xeric ruderals Perennial herbs, non-clonal Perennial herbs, clonal and non-clonal co-dominant Mature pioneer trees, no young trees Mature pioneer trees w/upland species Late-successional species 	 7) Xeroriparian species 8) Annual herbs, xeric ruderals 9) Perennial herbs, non-clonal 10) Perennial herbs, clonal and non-clonal codominent 11) Mature pioneer trees, no young trees 12) Mature pioneer trees, xeric understory 13) Mature pioneer trees w/upland species 14) Late-successional species 15) Upland species 	16) Annual herbs, xeric ruderals17) Mature pioneer trees w/upland species18) Upland species
Potential Geomorphic OHWM Indicators	(B) At OHW	 Valley flat Active floodplain Benches: low, mid, most prominent Highest surface of channel bars Top of point bars Upper limit of sand-sized particles Change in particle size distribution Staining of rocks Staining of rocks Litter (organic debris, larger than twigs) Drift (organic debris, larger than twigs) 		Potential Vegetation OHWM Indicators	(E) At OHW	 Annual herbs, hydromesic ruderals Perennial herbs, hydromesic clonals Pioneer tree seedlings Pioneer tree saplings 	 5) Sparse, low vegetation Annual herbs, hydromesic 6) Ruderals 7) Perennial herbs, hydromesic clonals 8) Pioneer tree seedlings 9) Pioneer tree saplings 10) Xeroriparian species 11) Annual herbs, xeric ruderals 	12) Sparse, low vegetation13) Xeroriparian species14) Annual herbs, xeric ruderals
	(A) Below OHW	s o rippled sands trs trs trs trind obstructions wnstream of obstructions s norphology in gravel and levees	Streaming lineations Dessication/mud cracks Armored mud balls Knick Points		(D) Below OHW	 Herbaceous marsh species Pioneer tree seedlings Sparse, low vegetation Annual herbs, hydromesic ruderals Perennial herbs, hydromesic clonals 	 6) Pioneer tree seedlings 7) Sparse, low vegetation 8) Pioneer tree saplings 9) Xeroriparian species 	10) Sparse, low vegetation11) Xeroriparian species12) Annual herbs, xeric ruderals
			 15) Streaming lineations 16) Dessication/mud crait 17) Armored mud balls 18) Knick Points 			Hydroriparian indicators	Mesoriparian indicators	Xeroriparian indicators

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HBG C	HWM F	ield Dat	a Sheet	(Arid W	est)	2				NALLORNO	V SUMMIT		
	#35	Contraction of the second second	1	ne: Deser	considerations.				HBG Sub-Basin # (1 – 41)	23	HUC 12# 180902082402		
							Drainag	e Data		國家自然大学和大学的		Comments	
Date M / D / Y)	Time (24-Hour)	GPS Unit #	Sample Point #	Map Sheet Ref #	OHW Width	Active (A) or Inactive (I) Channel	Down (D)	Photo (Y/N)	Below OHWM	At OHWM	Above OHWM	Use note pages at back of notebook for comments. Put comment number in block below.	
		<u> </u>							A:	B: /1, /2, 13, 6	C:	JASSite. Grade Roodplain vea	
514-10	0144		23m01	6205	70"	R	N	N	D: 10		F:17	culverts.	
									A:	B: 6, 11, 16, 13	C:		
-14-10	0259		23MDZ	C204	5'0"	R	ア	N	D:10	E:	F: 18		
	<i>e</i>		·		140-				A: 5	B: 6, 11, 12, 13	C:	estofingerenar	
-14-10	bzzy		2303	C202	2.0	A	2	N	D: 10	E:	F: 19	Elly mile then across fence to 6PS point	
Q,									A:	B:	C:	- Blockal	
10,12,10	-	5	2374		-	II	D	し	D:	₩	F:		
dj.		-			3.0			ų	A:	B:	C:	BLOCKEP RTH FIELD VERZIFIED	
,0,10 (0, 0)		5	1305			A	D		D:	.E: C. 1995 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -	5 F: 1	VGRIFIED	
10.10.1	1	Ğ	2306		1_		N	ų	A:	B:	C:	Blacks	
10,,,			10000						D:	/ E: 1911	F:		
									A:	B:	C:		
									D:	E:	F:		

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Reference: D = Drainage; M = Manmade; MD = Major Drainage; R = River

, Selfer a

E:\DesertXpress\Desert Xpress Drainage Field Data Sheet (Final).doc

ICF Jones & Stokes

Wetland Determination Data Forms – Arid West Region

For DesertXpress

HUC 12 Watershed Halloran Summit

HBG Watershed ID # 23

Within Death Valley-Lower Amargosa Watershed (HUC 18090203)

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site:	City/County: <u>Gath Burner dire</u> Sampling Date: <u>3/16/64</u> State: <u>CA</u> Sampling Point: <u>60-2</u>
Applicant/Owner: <u>CTTCL_DIAT</u>	
ivestigator(s): <u>J. Halson</u> , J. Windbelt Landform (hillslope, terrace, etc.): <u>Valey</u> Flory	Section, Township, Range:
Landform (hillslope, terrace, etc.): VAMA + 100/	Local relief (concave, convex, none): <u>Concaut</u> Slope (%): <u>1%</u>
Subregion (LRR):	at:_)-115,782954 Long: N 35,40/0342 Datum: NAD 83
Soll Map Unit Name: N/A	NWI classification: NA ZOUE []
Are climatic / hydrologic conditions on the site typical for this tim	ne of year? Yes No (If no, explain in Remarks.)
Are Vegetation No, Soll, or Hydrology signifi	ficantly disturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation <u>No</u> , Soil , or Hydrology > natura	ally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes No Yes No Yes No	Is the Sampled Area within a Wetland?	Yes No	
Remarks;	Dł	WH (w-1' 1-3" 5-4:1	Phytos; 8929 - 5 8930 - N	

VEGETATION

•

	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Use scientific names.) 1.		Species?		Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2 3				Total Number of Dominant Species Across All Strata: (B)
Total Cover:	Ø			Percent of Dominant Species ϕ (A/B) That Are OBL, FACW, or FAC:
1. Hymenn-lea calsela	5	_Y	NL- 17ft	Prevalence Index worksheet:
2			<u> </u>	Total % Cover of: Multiply by:
3				OBL species x 1 =
4				FACW species x 2 = FAC species x 3 =
5 Total Cover:				FACU species x 4 =
Herb Stratum			NL	UPL species $2 - 7$ x 5 = 135
1. BRAMUS Madrifersi's sep. rubous	15	<u> </u>	MOT -	Column Totals: 27 (A) 135 (B)
2. Bronnus tectorum		_Y	WHE ML	tu Internet
3. Erodium cicutation	<u>Z.</u>	<u>N</u>	UPT. N	Prevalence Index = B/A =
4		<u>.</u>		Hydrophytic Vegetation Indicators:
5				Dominance Test is >50%
6				Prevalence Index is ≤3.0 ¹
7				Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8 Total Cover: _				Problematic Hydrophytic Vegetation' (Explain)
Woody Vine Stratum				
1				¹ Indicators of hydric soil and wetland hydrology must be present.
2				······
Total Cover:		·		Hydrophytic Vegetation /
% Bare Ground in Herb Stratum % Cover of	of Biotic Cru	ust		Present? Yes No V
narks:			l-	
				·
		E I 1 0/	4	

SOIL

School and Schol and School and School and School and School and School and

Sampling Point: (<u>)0 7</u>

Depth <u>Matrix</u>	Redox Features	2 Touturo Domodu
	Color (moist) % Type ¹ Loc	<u>2 Texture Remarks</u>
8 10 YR 4/2		grout soud
· · · · · · · · · · · · · · · · · · ·	· ·	· ·
·····		
	-	
Type: C=Concentration D=Depletion R	M=Reduced Matrix. ² Location: PL=Pore Linin	g, RC=Root Channel, M=Matrix.
fydric Soil Indicators: (Applicable to a	all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
Histic Epipedon (A2)	Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
Black Histic (A3)	Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3)	Other (Explain in Remarks)
1 cm Muck (A9) (LRR D)	Redox Dark Surface (F6)	
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	
Thick Dark Surface (A12)	Redox Depressions (F8) Vernal Pools (F9)	³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Vernal Pools (P9)	wetland hydrology must be present.
Sandy Gleyed Matrix (S4) Restrictive Layer (if present):		
Type: <u>calicke</u>		/
Depth (inches): <u>9</u>	64- 17	Hydric Soil Present? Yes No
emarks:		
		Secondary (ndicators (2 or more required)
etland Hydrology Indicators:	fficient)	Secondary indicators (2 or more required) Water Marks (B1) (Riverine)
Vetland Hydrology Indicators: rimary Indicators (any one indicator is su		Water Marks (B1) (Riverine)
/etland Hydrology Indicators: rimary Indicators (any one indicator is su _ Surface Water (A1)	Salt Crust (B11)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine)
/etland Hydrology Indicators: rimary Indicators (any one indicator is su Surface Water (A1) High Water Table (A2)	Salt Crust (B11) Biotic Crust (B12)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine)
/etland Hydrology Indicators: rimary Indicators (any one Indicator is su Surface Water (A1) High Water Table (A2) Saturation (A3)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10)
Vetland Hydrology Indicators: rimary Indicators (any one Indicator is su Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2)
/etland Hydrology Indicators: rimary Indicators (any one Indicator is su Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine	 Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living I 	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Roots (C3) Thin Muck Surface (C7)
Vetland Hydrology Indicators: rimary Indicators (any one Indicator is su Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine)	 Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living I Presence of Reduced Iron (C4) 	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C8)
Vetland Hydrology Indicators: rimary Indicators (any one Indicator is su Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6)	 Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living I Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Soil 	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C8) s (C6) Saturation Visible on Aerial Imagery (C6
/etland Hydrology Indicators: rimary Indicators (any one indicator is su Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (1)	 Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living I Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Soli 	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C6) Shallow Aquitard (D3)
Vetland Hydrology Indicators: rimary Indicators (any one indicator is su Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (Mater-Stained Leaves (B9)	 Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living I Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Soli 	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C8) s (C6) Saturation Visible on Aerial Imagery (C6
Vetland Hydrology Indicators: rimary Indicators (any one Indicator is su Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (i Water-Stained Leaves (B9) teld Observations:	 Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living I Presence of Reduced iron (C4) Recent Iron Reduction in Plowed Soil B7) Other (Explain in Remarks) 	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C8 Shallow Aquitard (D3)
Vetland Hydrology Indicators: rimary Indicators (any one indicator is su 	 Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living I Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Soil B7) Other (Explain in Remarks) 	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C8 Shallow Aquitard (D3)
Vetland Hydrology Indicators: Irimary Indicators (any one Indicator is su Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (I Water-Stained Leaves (B9) ield Observations: Urface Water Present? Yes /ater Table Present? Yes	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1))Oxidized Rhizospheres along Living I Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Soil B7)Other (Explain in Remarks)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C8) (C6) Saturation Visible on Aerial Imagery (C6) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Vetland Hydrology Indicators: rimary Indicators (any one indicator is su 	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1))Oxidized Rhizospheres along Living I Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Soil B7)Other (Explain in Remarks)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C8) (C6) Saturation Visible on Aerial Imagery (C6) Shallow Aquitard (D3)
Vetland Hydrology Indicators: rimary Indicators (any one Indicator is su 	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1))Oxidized Rhizospheres along Living I Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Soil B7)Other (Explain in Remarks)	
Vetland Hydrology Indicators: rimary Indicators (any one Indicator is su 	 Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living I Presence of Reduced iron (C4) Recent Iron Reduction in Plowed Soil B7) Other (Explain in Remarks) 	
 High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (I Water-Stained Leaves (B9) ield Observations: urface Water Present? Yes vater Table Present? Yes aturation Present? Yes aturation Present? Yes acturation Present? Yes 	 Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living I Presence of Reduced iron (C4) Recent Iron Reduction in Plowed Soil B7) Other (Explain in Remarks) 	
Vetland Hydrology Indicators: <u>rimary Indicators (any one Indicator is su</u> 	 Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living I Presence of Reduced iron (C4) Recent Iron Reduction in Plowed Soil B7) Other (Explain in Remarks) 	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C8) s (C6) Saturation Visible on Aerial Imagery (C8 Shallow Aquitard (D3) FAC-Neutral Test (D5)
Vetland Hydrology Indicators: rimary Indicators (any one Indicator is su 	 Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living I Presence of Reduced iron (C4) Recent Iron Reduction in Plowed Soil B7) Other (Explain in Remarks) 	
/etland Hydrology Indicators: rimary Indicators (any one Indicator is su	 Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living I Presence of Reduced iron (C4) Recent Iron Reduction in Plowed Soil B7) Other (Explain in Remarks) 	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C8) s (C6) Saturation Visible on Aerial Imagery (C8 Shallow Aquitard (D3) FAC-Neutral Test (D5)
Vetland Hydrology Indicators: rimary Indicators (any one indicator is su Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (8) Water Table Present? Yes ater Table Present? Yes cludes capillary fringe) escribe Recorded Data (stream gauge, marks:	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1))Oxidized Rhizospheres along Living I Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Soil B7)Other (Explain in Remarks) NoDepth (inches): NoDepth (inches): No	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C8) s (C6) Saturation Visible on Aerial Imagery (C8 Shallow Aquitard (D3) FAC-Neutral Test (D5)
/etland Hydrology Indicators: rimary Indicators (any one Indicator is su _ Surface Water (A1) _ High Water Table (A2) _ Saturation (A3) _ Water Marks (B1) (Nonriverine) _ Sediment Deposits (B2) (Nonriverine) _ Drift Deposits (B3) (Nonriverine) _ Surface Soil Cracks (B6) _ Inundation Visible on Aerial Imagery (in the image of the	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1))Oxidized Rhizospheres along Living I Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Soil B7)Other (Explain in Remarks) NoDepth (inches): NoDepth (inches): No	

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site:	City/County: Stern Barbardine Sampling Date: 3/16/08
polican!/Owner Ciscle Point	State: <u>[A</u> Sampling Point: <u>60-3</u>
investigator(s): J. Holson, J. Ilindbalt	Section, Township, Range:
) and form (hillsione, terrace, etc.): \//\\\\\!\\!\!\!\!\!\!\!\!\!\!	Local relief (concave, convex, none): <u>roncaw</u> . Slope (%): <u>8%</u> NJ-115, 780519 Lona: N 35, 40699 X Datum: NAD 73
Subregion (LRR): D	<u>VI-115,780519</u> Cong: N <u>35,406998</u> Datum: NAD 93
Soil Map Unit Name: DHA	
Are climatic / hydrologic conditions on the site typical for this time	
Are Vegetation <u>)</u> , Soil , or Hydrology signification	
Are Vegetation No., Soil , or Hydrology > natural	y problemator (in necoco, opialiticity cherce transports important features, etc.

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soll Present? Wetland Hydrology Present?	Yes No Yes No Yes No	is the Sampled Area within a Wetland?	Yes No
Remarks:	· · · · · · · · · · · · · · · · · · ·	OHWM W-11 K-6" S-4:1	Photos: 8924-N 8925-5

VEGETATION

	Absolute	Dominant	indicator	Dominance Test worksheet:
Tree Stratum (Use scientific names.) 1.	% Cover	Species?		Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant 2(B)
Total Cover:	ø	<u></u>		Percent of Dominant Species (A/B)
Sapling/Shrub Stratum	3	Y	NL	Prevalence Index worksheet:
11. FIGHER VOCIERCI SALIDIA				Total % Cover of: Multiply by:
2:				OBL species x 1 =
4				FACW species x 2 =
	<u></u>	<u>.</u>		FAC species x 3 =
5 Total Cover:	3			FACU species $x 4 =$ UPL species $x 5 = 15$
			NL	UPL species $3Q$ x 5 = $15Q$
1. Brownies madritopsis 55%. ruleny	20	<u> </u>	HPI_	Column Totals: <u>30</u> (A) <u>5</u> (B)
2. Erodium cicuterint	_5	<u>N</u>	HAE NL	Prevalence Index = B/A =
3. Branning fectorism	<u> </u>	<u>_N</u>	HPC NC	Hydrophytic Vegetation Indicators:
4				Dominance Test is >50%
5		·····	·	Prevalence Index is ≤3.0 ¹
6				Morphological Adaptations ¹ (Provide supporting
			·	data in Remarks or on a separate sheet)
8.	·		• •	Problematic Hydrophytic Vegetation ¹ (Explain)
Total Cover	27			
Woody Vine Stratum 1				¹ Indicators of hydric soil and wetland hydrology must be present.
2			·	Hydrophytic
Total Cover				Vandation
A Bare Ground in Herb Stratum 73 % Cover	of Biotic C	rust		Present? Yes No
, A del lare i serie				

He Army Come of Epoineers

~		21
		41
	ັ	14

Sampling Point: (a) 3

Depth	Matrix	th needed to document the indicator or confir Redox Features	
(inches)	Q (Color (moist) % Type ¹ Loc ²	<u>TextureRemarks</u>
[4	10 YR 42		gravelly sand
<u> </u>			
	· · · · · · · · · · · · · · · · · · ·	·	
	·	······································	
····			
······			· · · · · · · · · · · · · · · · · · ·
		Reduced Matrix. ² Location: PL=Pore Lining,	RC=Root Channel, M=Matrix.
Type: C=C	Indicators: (Applicable to all	LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
		Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
Histoso	pipedon (A2)	Stripped Matrix (S6)	2 cm Muck (А10) (LRR В)
Black H		Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
Hydrog	en Sulfide (A4)	Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
Stratifie	d Layers (A5) (LRR C)	Depleted Matrix (F3)	Other (Explain in Remarks)
1 cm M	uck (A9) (LRR D)	Redox Dark Surface (F6) Depleted Dark Surface (F7)	
Deplete	d Below Dark Surface (A11)	Redox Depressions (F8)	
Thick D	ark Surface (A12)	Vernal Pools (F9)	³ Indicators of hydrophytic vegetation and
Sandy(1	Mucky Mineral (S1) Sleyed Matrix (S4)		wetland hydrology must be present.
	Layer (if present):		
Тура:	$=$ $+$ χ		
Depth (ir			Hydric Soil Present? Yes No
Remarks:			
		ж -	
	````````````````````````````````		
YDROLC			Secondary Indicators (2 or more required)
	drology indicators;		Water Marks (B1) (Riverine)
Primary Indi	icators (any one Indicator is suff		Sediment Deposits (B2) (Riverine)
Surface	Water (A1)	Salt Crust (B11)	Drift Deposits (B2) (Riverine)
	ater Table (A2)	Biotic Crust (B12)	Drainage Patterns (810)
Saturati	ion (A3)	Aquatic Invertebrates (B13)	Dry-Season Water Table (C2)
Water N	/larks (B1) (Nonriverine)	Hydrogen Sulfide Odor (C1)	
	nt Deposits (B2) (Nonriverine)	Oxidized Rhizospheres along Living R	Crayfish Burrows (C8)
	posits (B3) (Nonriverine)	Presence of Reduced Iron (C4)	
	e Soil Cracks (B6)	Recent Iron Reduction in Plowed Solls	Shallow Aquitard (D3)
	ion Visible on Aerial Imagery (B	<ol> <li>Other (Explain in Remarks)</li> </ol>	FAC-Neutral Test (D5)
Water-S	Stained Leaves (89)		
Field Obse	rvations:		
Surface Wa		No Depth (Inches):	1
Water Table	Present? Yes	No/Depth (inches):	stand Hudralogy Present? Yas
Saturation P	Present? Yes	No Depth (inches): We	etland Hydrology Present? Yes No <u>V</u>
		onitoring well, aerial photos, previous inspections	s), if available:
Describe Re	ecorded Data (stream gauge, m	Surving non- source protect protected and	•
Remarks:			
			(
Mul	M T: Nicrrentlr	oufined, CL, CS, NIJGD, WS, SC	
			7
1 2 14 162	1 len 1		

### WETLAND DETERMINATION DATA FORM - Arid West Region

	inty: <u>Sun Revucidities</u> Sampling Date: <u>3/16/08</u>
Circle Print	State: Cha Sampling Point: 60-4
Section	Township, Range:
Local re	elief (concave, convex, none): <u>Concave</u> Slope (%): <u>ATTS</u>
Subregion (LRR): D tat:W -115,7	76407 Cong: N 35.404516 Datum: NAD 83
Soil Map Unit Name:	/
Are climatic / hydrologic conditions on the site typical for this time of year? Yes	No (If no, explain in Remarks.)
Are Vegetation No Soil or Hydrology significantly disturbed	d? Are "Normal Circumstances" present? Yes No
Are Vegetation <u>No.</u> , Soll , or Hydrology naturally problematic	
SUMMARY OF FINDINGS - Attach site map showing samp	
Hydrophytic Vegetation Present? Yes No Is	s the Sampled Area
Hydric Soil Present? Yes No Yes No	vithin a Wetland? Yes No
Wetland Hydrology Present? Yes No	
Remarks: O	twn w-17 Photos: 8922-5 h-3" \$923-N 5-4:1
VEGETATION	act Indicator   Dominance Test worksheet:
Tree Stratum (Use scientific names.) <u>% Cover</u> Specie	
1.	
Total Cover:	Percent of Dominant Species
Sapling/Shrub Stratum	
1. <u>21 </u>	Prevalence Index worksheet: Total % Cover of: Multiply by:
2	
3	
4	FAC species x 3 =
5 Total Cover:	FACU species x 4 =
Herb Stratum	UPL species $UO$ x5 = 300
1. Browns Madritensis 550, rulens 30 Y	$\begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \\ \end{array} \end{array} \\ \begin{array}{c} \end{array} \end{array} \\ \begin{array}{c} \end{array} \\ \begin{array}{c} \end{array} \\ \begin{array}{c} \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \begin{array}{c} \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \begin{array}{c} \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \begin{array}{c} \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} $
2. Brownies tertaxies 10 N 20 Y	Hetter Prevalence Index = B/A =
3. Salsola tragas 20	Hydrophytic Vegetation Indicators:
4	Dominance Test is >50%
6	Prevalence Index is ≤3.0 ¹
0.	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8	Problematic Hydrophytic Vegetation ¹ (Explain)
Total Cover: <u>6 C</u>	
<u>Woody Vine Stratum</u> 1	be present.
2	Hydrophytic
Bare Ground in Herb Stratum $40$ % Cover of Biotic Crust	Ø         Vegetation           Ø         Present?         Yes         No
serie Ground in Held Stratum // Cover Stratum	
······································	
	<b>0</b>
· F-I.1-9	98 Arid Week - Verries 11.1.2009

JUL	S	0	i	L
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Sampling Point: 100-6

Depth	<u>Matrix</u>		Redox	Features	1 002	n the absence of indicators.) Texture Remarks
(inches)	Color (moist)		CODERTINOSO			gravelly sand
18	10 9K 4/2					<del>.</del>
			· · · · · · · · · · · · · · · · · · ·			
,						·
					·	
	prentration D=Dec	letion, RM≍R	educed Matrix.	² Location: PL=Po	re Lining,	RC=Root Channel, M=Matrix. Indicators for Problematic Hydric Soils ³ :
Type: 0-00 Hydric Soild	ndicators: (Applic	able to all LF		•••••••		
Histosol			Sandy Reod	(30)		1 cm Muck (A9) (LRR C) 2 cm Muck (A10) (LRR B)
Histic Ep	Volumedors (A2)		Stripped Ma	trix (S6)	÷ 1	Reduced Vertic (F18)
Black Hi	stic (A3)		Loamy Much	ky Mineral (F1)		Red Parent Material (TF2)
Hvdrone	n Sulfide (A4)		Loamy Gley	ed Matrix (F2)		Other (Explain in Remarks)
Stratified	Layers (A5) (LRR	C)	Depieted Ma	atrix (F3)		Ottor (explain in the second
1 cm Mu	ick (A9) (LRR D)		Redox Dark	Surface (F6)		
Depieteo	Below Dark Surfac	ce (A11)	Depleted Da	ank Sunace (F()		
Thick Da	ark Surface (A12)		Redox Depr	- (ED)		³ Indicators of hydrophytic vegetation and
Sandy M	lucky Mineral (S1)		Vernal Pool	5(10)	-	wetland hydrology must be present.
Sandy G	Heyed Matrix (S4)					
Restrictive I	ayer (if present):					
Туре:						Hydric Soil Present? Yes NO
Type: Depth (in	ches):					Hydric Soil Present? Yes No
Type: Depth (in Remarks:	ches):					Hydric Soil Present? Yes NO
Depth (in	ches):					Hydric Soil Present? Yes NO
Depth (in	ches):					Hydric Soil Present? Yes NO
Depth (in	ches):					Hydric Soil Present? Yes NO
Depth (in Remarks:	ches):					
Depth (in Remarks: YDROLO	ches):					Secondary indicators (2 or more require
Depth (in Remarks: IYDROLO Wetland Hy	GY drology Indicators	;;				<u>Secondary Indicators (2 or more require</u> Water Marks (B1) (Riverine)
Depth (in Remarks: HYDROLO Wetland Hy Primary Indi	GY drology Indicators cators (any one indi	:: Icator is suffici	ent)			Secondary indicators (2 or more require Water Marks (B1) (Riverine)
Depth (in Remarks: IYDROLO Wetland Hy Primary Indi	drology Indicators cators (any one indi Water (A1)	:: Icator is suffici	ent) Salt Crust	: (B11)		Secondary Indicators (2 or more require Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine)
Depth (in Remarks: IYDROLO Wetland Hy Primary Indi Surface High Wi	drology Indicators cators (any one indi Water (A1) ater Table (A2)	:: Icator is suffici	ent) Salt Crust Biotic Cru	: (B11) st (B12)		Secondary Indicators (2 or more require — Water Marks (B1) (Riverine) — Sediment Deposits (B2) (Riverine) — Drift Deposits (B3) (Riverine) — Drainage Patterns (B10)
Depth (in Remarks: IYDROLO Wetland Hy Primary Indi Surface High Wa Saturati	drology Indicators cators (any one indi Water (A1) ater Table (A2) on (A3)	:: Icator is suffici	ent) Salt Crust Biotic Cru Aquatic Ir	: (B11) st (B12) pvertebrates (B13)		Secondary Indicators (2 or more require Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2)
Depth (in Remarks: IYDROLO Wetland Hy Primary Indi Surface High Wi Saturati Water M	drology Indicators cators (any one indi Water (A1) ater Table (A2) on (A3) Marks (B1) (Nonrive	i: Icator is suffici arine)	ent) Salt Crust Biotic Cru Aquatic Ir	: (B11) st (B12) pvertebrates (B13)		Secondary Indicators (2 or more require Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2)
Depth (in Remarks: <b>IYDROLO</b> Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedime	GP: GY drology Indicators cators (any one indi Water (A1) ater Table (A2) on (A3) Marks (B1) (Nonrive nt Deposits (B2) (No	:: icator is suffici arine) onriverine)	ent) Salt Crust Biotic Cru Aquatic Ir Hydrogen Oxidized	: (B11) st (B12) jvertebrates (B13) sulfide Odor (C1) Rhizospheres alor	) ng Living F	Secondary indicators (2 or more require Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C8)
Depth (in Remarks: <b>IYDROLO</b> Wetland Hy Primary Indi Surface High Wi Saturati Water M Sedime Drift De	drology Indicators cators (any one indi Water (A1) ater Table (A2) on (A3) Marks (B1) (Nonrive nt Deposits (B2) (Nonrive	:: icator is suffici arine) onriverine)	ent) Salt Crust Biotic Cru Aquatic Ir Hydrogen Oxidized Presence	: (B11) st (B12) wertebrates (B13) Suifide Odor (C1) Rhizospheres alor of Reduced Iron (	) ng Living F (C4)	Secondary Indicators (2 or more require Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C8)
Depth (in Remarks: <b>IYDROLO</b> Wetland Hy Primary Indi Surface High Wa Saturati Saturati Sedime Drift De	GY GY drology Indicators cators (any one indi Water (A1) ater Table (A2) on (A3) Marks (B1) (Nonrive nt Deposits (B2) (No posits (B3) (Nonrive Sall Cracks (B6)	erine) erine) erine)	ent) Salt Crust Biotic Cru Aquatic Ir Hydrogen Oxidized Presence Recent In	(B11) st (B12) vertebrates (B13) Sulfide Odor (C1) Rhizospheres alor of Reduced Iron ( on Reduction in Pl	) ng Living F C4) owed Soil	Secondary Indicators (2 or more require Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C8) s (C6) Saturation Visible on Aerial Imager
Depth (In Remarks: <b>IYDROLO</b> <b>Wetland Hy</b> <u>Primary Indi</u> Surface High Wa Saturati Saturati Sedime Drift De Surface Indi	drology Indicators cators (any one indi Water (A1) ater Table (A2) on (A3) Marks (B1) (Nonrive nt Deposits (B2) (No posits (B3) (Nonriv Soil Cracks (B6) ion Visible on Aeria	:: loator is suffici onriverine) erine) i Imagery (B7	ent) Salt Crust Biotic Cru Aquatic Ir Hydrogen Oxidized Presence Recent In	(B11) st (B12) vertebrates (B13) Sulfide Odor (C1) Rhizospheres alor of Reduced Iron ( on Reduction in Pl rolain in Remarks)	) ng Living F C4) owed Soil	Secondary Indicators (2 or more require)         Water Marks (B1) (Riverine)         Sediment Deposits (B2) (Riverine)         Drift Deposits (B3) (Riverine)         Drainage Patterns (B10)         Dry-Season Water Table (C2)         Roots (C3)       Thin Muck Surface (C7)         Crayfish Burrows (C8)         s (C6)       Saturation Visible on Aerial Imager
Depth (In Remarks: <b>IYDROLO</b> <b>Wetland Hy</b> <u>Primary Indi</u> Surface High Wa Saturati Saturati Sedime Drift De Surface Indi	drology Indicators cators (any one indi Water (A1) ater Table (A2) on (A3) Marks (B1) (Nonrive nt Deposits (B2) (No posits (B3) (Nonriv Soil Cracks (B6) ion Visible on Aeria	:: loator is suffici onriverine) erine) i Imagery (B7	ent) Salt Crust Biotic Cru Aquatic Ir Hydrogen Oxidized Presence Recent In	(B11) st (B12) vertebrates (B13) Sulfide Odor (C1) Rhizospheres alor of Reduced Iron ( on Reduction in Pl rolain in Remarks)	) ng Living F C4) owed Soil	Secondary Indicators (2 or more require Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C8) s (C6) Saturation Visible on Aerial Imager
Depth (in Remarks: <b>IYDROLO</b> Wetland Hy Primary Indi Surface High Wi Saturati Vater M Sedime Drift De Surface Inundat Water S	drology Indicators cators (any one indi Water (A1) ater Table (A2) on (A3) Marks (B1) (Nonrive nt Deposits (B2) (Nonrive posits (B3) (Nonrive Soil Cracks (B6) ion Visible on Aeria Stained Leaves (B9)	erine) onriverine) erine) i Imagery (B7	ent) Salt Crust Biotic Cru Aquatic Ir Hydrogen Oxidized Presence Recent In ) Other (E>	(B11) st (B12) vertebrates (B13) Sulfide Odor (C1) Rhizospheres alor of Reduced Iron ( on Reduction in Pl plain in Remarks)	) ng Living F (C4) owed Soil	Secondary Indicators (2 or more require)         Water Marks (B1) (Riverine)         Sediment Deposits (B2) (Riverine)         Drift Deposits (B3) (Riverine)         Drainage Patterns (B10)         Dry-Season Water Table (C2)         Roots (C3)       Thin Muck Surface (C7)         Crayfish Burrows (C8)         s (C6)       Saturation Visible on Aerial Imager
Depth (in Remarks: <b>IYDROLO</b> Wetland Hy Primary Indi Surface High Wi Saturati Water M Sedime Drift De Surface Inundat Tield Obse	drology Indicators cators (any one indi Water (A1) ater Table (A2) on (A3) Marks (B1) (Nonrive nt Deposits (B2) (No posits (B3) (Nonriv Soil Cracks (B6) ion Visible on Aeria Stained Leaves (B9) rvations: tor Present?	:: icator is suffici onriverine) errine) { Imagery (B7 ) Yes	ent) Salt Crust Biotic Cru Aquatic Ir Hydrogen Oxidized Presence Recent Im Other (E>	(B11) st (B12) wertebrates (B13) Sulfide Odor (C1) Rhizospheres alor of Reduced Iron ( on Reduction in Pl plain in Remarks)	) ng Living F C4) owed Soil	Secondary Indicators (2 or more require)         Water Marks (B1) (Riverine)         Sediment Deposits (B2) (Riverine)         Drift Deposits (B3) (Riverine)         Drainage Patterns (B10)         Dry-Season Water Table (C2)         Roots (C3)       Thin Muck Surface (C7)         Crayfish Burrows (C8)         s (C6)       Saturation Visible on Aerial Imager
Depth (In Remarks: <b>IYDROLO</b> <b>Wetland Hy</b> Primary Indi Surface High Wa Saturati Saturati Saturati Surface Inundat Water-S Field Obse Surface Wa	drology Indicators cators (any one indi water (A1) ater Table (A2) on (A3) Marks (B1) (Nonrive nt Deposits (B2) (No posits (B3) (Nonriv Soil Cracks (B6) ion Visible on Aeria Stained Leaves (B9) rvations: ter Present?	icator is suffici onriverine) erine) i Imagery (B7 ) Yes N	ent) Salt Crust Biotic Cru Aquatic Ir Hydrogen Oxidized Presence Recent Ir )Other (E> 00Depth (ii 10Depth (ii	(B11) st (B12) wertebrates (B13) Sulfide Odor (C1) Rhizospheres alor of Reduced Iron ( on Reduction in Pi plain in Remarks) nches):	) ng Living F C4) owed Soil	Secondary Indicators (2 or more require)         Water Marks (B1) (Riverine)         Drift Deposits (B2) (Riverine)         Drift Deposits (B3) (Riverine)         Drift Deposits (B3) (Riverine)         Drift Deposits (B10)         Dry-Season Water Table (C2)         Roots (C3)       Thin Muck Surface (C7)         Crayfish Burrows (C8)         s (C6)       Saturation Visible on Aerial Imager         Shallow Aquitard (D3)         FAC-Neutral Test (D5)
Depth (in Remarks: <b>IVDROLO</b> Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedime Drift De Surface Inundal Water-S Field Obse Surface Wa Water Table	drology Indicators cators (any one indi Water (A1) ater Table (A2) on (A3) Marks (B1) (Nonrive nt Deposits (B2) (No posits (B3) (Nonriv Soil Cracks (B6) ion Visible on Aeria Stained Leaves (B9) rvations: ter Present? a Present?	icator is suffici onriverine) erine) i Imagery (B7 ) Yes N	ent) Salt Crust Biotic Cru Aquatic Ir Hydrogen Oxidized Presence Recent Ir )Other (E> 00Depth (ii 10Depth (ii	(B11) st (B12) wertebrates (B13) Sulfide Odor (C1) Rhizospheres alor of Reduced Iron ( on Reduction in Pi plain in Remarks) nches):	) ng Living F C4) owed Soil	Secondary Indicators (2 or more require)         Water Marks (B1) (Riverine)         Sediment Deposits (B2) (Riverine)         Drift Deposits (B3) (Riverine)         Drainage Patterns (B10)         Dry-Season Water Table (C2)         Roots (C3)       Thin Muck Surface (C7)         Crayfish Burrows (C8)         s (C6)       Saturation Visible on Aerial Imager
Depth (In Remarks: <b>IYDROLO</b> <b>Wetland Hy</b> Primary Indi Surface High Wa Saturati Saturati Surface Inundat Water-S Field Obse Surface Wa Water Table Saturation F	drology Indicators cators (any one indi Water (A1) ater Table (A2) on (A3) Marks (B1) (Nonrive nt Deposits (B2) (No posits (B3) (Nonriv Soil Cracks (B6) ion Visible on Aeria Stained Leaves (B9) rvations: ter Present? a Present?	:: lcator is sufficient onriverine) erine) Himagery (B7 ) Yes N Yes N Yes N	ent) Salt Crust Biotic Cru Aquatic Ir Hydrogen Oxidized Presence Recent Irr ) Other (Example ) Depth (in Io Depth (in Io Depth (in	(B11) st (B12) vertebrates (B13) Sulfide Odor (C1) Rhizospheres alor of Reduced Iron ( on Reduction in Pl plain in Remarks) nches): nches):	) ng Living F (C4) owed Soil	Secondary Indicators (2 or more require)         Water Marks (B1) (Riverine)         Drift Deposits (B2) (Riverine)         Drift Deposits (B3) (Riverine)         Drift Deposits (B3) (Riverine)         Drainage Patterns (B10)         Dry-Season Water Table (C2)         Roots (C3)       Thin Muck Surface (C7)         Crayfish Burrows (C8)         s (C6)       Saturation Visible on Aerial Imager         Shallow Aquitard (D3)         FAC-Neutral Test (D5)
Depth (In Remarks: <b>IYDROLO</b> <b>Wetland Hy</b> Primary Indi Surface High Wa Saturati Saturati Surface Inundat Water-S Field Obse Surface Wa Water Table Saturation F	drology Indicators cators (any one indi Water (A1) ater Table (A2) on (A3) Marks (B1) (Nonrive nt Deposits (B2) (No posits (B3) (Nonriv Soil Cracks (B6) ion Visible on Aeria Stained Leaves (B9) rvations: ter Present? a Present?	:: lcator is sufficient onriverine) erine) Himagery (B7 ) Yes N Yes N Yes N	ent) Salt Crust Biotic Cru Aquatic Ir Hydrogen Oxidized Presence Recent Irr ) Other (Example 10 Depth (in 10	(B11) st (B12) vertebrates (B13) Sulfide Odor (C1) Rhizospheres alor of Reduced Iron ( on Reduction in Pl plain in Remarks) nches): nches):	) ng Living F (C4) owed Soil	Secondary Indicators (2 or more require)         Water Marks (B1) (Riverine)         Drift Deposits (B2) (Riverine)         Drift Deposits (B3) (Riverine)         Drift Deposits (B3) (Riverine)         Drainage Patterns (B10)         Dry-Season Water Table (C2)         Roots (C3)       Thin Muck Surface (C7)         Crayfish Burrows (C8)         s (C6)       Saturation Visible on Aerial Imager         Shallow Aquitard (D3)         FAC-Neutral Test (D5)

### WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:		City/Cours	ty: Joint.	Burinar divo Sampling Date: 3/16/08 State: Sampling Point: 60-5
pplicant/Owner: Circle Point		•	· · · · · · · · · · · · · · · · · · ·	State: Sampling Point: 60-5
investigator(s): 5. Halson, J. W. M. M. H.		Section, T	ownship, Ra	nge:
Landform (hillslope, terrace, etc.): Valley Eloor		Local reli	ef (concave,	convex, none): <u>concalue</u> Slope (%): <u>37</u> 2
Subregion (LRR): D		-11 5.7	142-21	Torig: N 35.409402 Datum: NAD 83
Soll Map Unit Name: N/A				NWI classification: 1/1 20NE //
Are climatic / hydrologic conditions on the site typical for the				p
Are Vegetation Nb, Soll, or Hydrology				'Normal Circumstances' present? Yes No
Are Vegetation <u>No</u> , Soil , or Hydrology				eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map				ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes	No_	lei	the Sampled	Area
Hydric Soil Present? Yes	No	1	hin a Wetlar	
Wetland Hydrology Present? ⁵ Yes	No <u> </u>			
Remarks:		ØН	いれ 14 - ト - ら-	
VEGETATION				
Tree Stratum (Use scientific names.)	Absolute <u>% Cover</u>		nt Indicator	Dominance Test worksheet: Number of Dominant Species
1,	-			That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
				Percent of Dominant Species
	er: <u>Ø                                    </u>			That Are OBL, FACW, or FAC: (A/B)
<u>Sapling/Shrub Stratum</u> 1. <u>Humenoclea</u> salsala	5	Y	UPE	Prevalence Index worksheet:
2. Gauharis Satertaroides	15	Ϋ́	HT	Total % Cover of: Multiply by:
3			FAC	OBL species x 1 =
4				FACW species x 2 =
5		<u></u>		FAC species x 3 =
Total Cove	er: <u>71</u> 7		NJ Line	FACU species $x4 =$ UPL species $40$ $x5 = 500$
Herb Stratum . 1. Salsola trages	15	ω Jr	. UPT	Column Totals: $100$ (A) $306$ (B)
2. Eroding Cicatorian	5	N	WPE NL	المتعربي
3. Branny madritence SSp. v. hens	5	Y	HPE NG	Prevalence Index = B/A =
4. Brownys tectarum	5	N	HONL	"Hydrophytic Vegetation Indicators:
5				Dominance Test is >50%
6				Prevalence Index is ≤3.0 ¹ Morphologicał Adaptations ¹ (Provide supporting
7				data in Remarks or on a separate sheet)
8 Total Cove		<b></b>		Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum	ר <u>קו</u> ע			
1				Indicators of hydric soil and wetland hydrology must
2				be present.
	er: er of Blotic Cr	ust B		Hydrophytic Vegetation Present? Yes No
amarks;				
энцила,				
		F-I.1-10	0	

SOIL

### Sampling Point: (1) 5

Depth <u>Matrix</u>	Redox Features	1 2	T4	
(inches) Color (moist) %	Color (moist) % Type1		<u>Texture</u>	Remarks
16 10 4/2			<u>navelly Sak</u>	ć
		······		
· · · · · · · · · · · · · · · · · · ·				·
		· · · ·		
				<u> </u>
			·	
		•	<u> </u>	
¹ Type: C=Concentration, D=Depletion, RM=R	educed Matrix. ² Location: PL=Pore L	_ining, RC=	Root Channel,	M=Matrix. Problematic Hydric Soils ³ :
Hydric Soil Indicators: (Applicable to all LR				(A9) (LRR C)
Histosol (A1)	Sandy Redox (S5) Stripped Matrix (S6)			: (A10) (LRR B)
Histic Epipedon (A2) Black Histic (A3)	Loamy Mucky Mineral (F1)		Reduced \	
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)			t Material (TF2)
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3)		Other (Exp	lain in Remarks)
1 cm Muck (A9) (LRR D)	Redox Dark Surface (F6)			
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)			
Thick Dark Surface (A12) Sandy Mucky Mineral (S1)	Redox Depressions (F8) Vernal Pools (F9)		³ Indicators of h	ydrophytic vegetation and
Sandy Mucky Minerat (S1)			-	rology must be present.
Restrictive Layer (if present):		,		
Туре:				1
Depth (inches):		·   }	Hydric Soil Pre	sent? Yes No
		<u></u>		<u> </u>
				- <u> </u>
		L		
Remarks:				· · · · · · · · · · · · · · · · · · ·
Remarks: YDROLOGY				/ Indicators (2 or more required)
Remarks: YDROLOGY Vetland Hydrology Indicators:			Water	Marks (B1) (Riverine)
Remarks: YDROLOGY Vetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient			Water Sedin	Marks (B1) (Riverine) nent Deposits (B2) (Riverine)
Remarks: YDROLOGY Vetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient	nt)	I	Water Sedin Drift D	Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine)
Remarks: YDROLOGY Vetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient Surface Water (A1)	nt) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13)	I	Water Sedin Drift I	Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Pattems (B10)
Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine)	nt) Salt Crust (B11) Blotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)		Water Sedin Drift I Drain Dry-S	Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) eason Water Table (C2)
Remarks: YDROLOGY Vetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine)	Int) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dxidized Rhizospheres along Liv		Water Sedin Drift I Drain Dry-S C3) Thin J	Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) eason Water Table (C2) Muck Surface (C7)
Remarks: YDROLOGY Netland Hydrology Indicators: Primary Indicators (any one indicator is sufficient Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine)	Int) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dxidized Rhizospheres along Liv Presence of Reduced Iron (C4)	ing Roots (	Water Water Drift I Drift I Drain Cray C3) Thin J	Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) eason Water Table (C2) Muck Surface (C7) sh Burrows (C8)
Remarks: YDROLOGY Vetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6)	Int) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dxidized Rhizospheres along Liv Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed	ing Roots (	Water Water Sedin Drift I Drift Dry-S C3) Thin I Crayf Satur	Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Pattems (B10) eason Water Table (C2) Muck Surface (C7) sh Burrows (C8) ation Visible on Aeriał Imagery (C9)
Remarks: YDROLOGY Vetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7)	Int) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dxidized Rhizospheres along Liv Presence of Reduced Iron (C4)	ing Roots (	Water Sedin Drift I Dry-S (C3) Thin J Crayf Satur Shalio	Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) eason Water Table (C2) Muck Surface (C7) sh Burrows (C8) ation Visible on Aeriał Imagery (C9) ow Aquitard (D3)
Remarks: YDROLOGY Vetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soll Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)	Int) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dxidized Rhizospheres along Liv Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed	ing Roots (	Water Sedin Drift I Dry-S (C3) Thin J Crayf Satur Shalio	Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Pattems (B10) eason Water Table (C2) Muck Surface (C7) sh Burrows (C8) ation Visible on Aeriał Imagery (C9)
Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Field Observations:	Int) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dxidized Rhizospheres along Liv Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Other (Explain in Remarks)	ing Roots (	Water Sedin Drift I Dry-S (C3) Thin J Crayf Satur Shalio	Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) eason Water Table (C2) Muck Surface (C7) sh Burrows (C8) ation Visible on Aeriał Imagery (C9) ow Aquitard (D3)
Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes No	Inf) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dxidized Rhizospheres along Liv Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Other (Explain in Remarks)	ing Roots (	Water Sedin Drift I Dry-S (C3) Thin J Crayf Satur Shalio	Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Patterns (B10) eason Water Table (C2) Muck Surface (C7) sh Burrows (C8) ation Visible on Aeriał Imagery (C9) ow Aquitard (D3)
Remarks:         YDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (any one indicator is sufficient of the suffic	Inf) Salt Crust (B11) Blotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dxidized Rhizospheres along Liv Presence of Reduced Iron (C4) Recent Iron Reduction in Piowed Other (Explain in Remarks) Depth (inches):	ing Roots ( Solls (C6)	Water Sedin Drift [ Dry-S (C3) Thin <i>I</i> Crayf Satur Shalid FAC-I	Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Pattems (B10) eason Water Table (C2) Muck Surface (C7) sh Burrows (C8) ation Visible on Aerial Imagery (C9) ow Aguitard (D3) Neutral Test (D5)
Remarks:         YDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (any one indicator is sufficient of the suffic	Int) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dxidized Rhizospheres along Liv Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Other (Explain in Remarks) Depth (inches): U Depth (inches):	ing Roots ( Solls (C6) Wetland	Water Water Sedin Drift I Drift I Dry-S C3) Thin I Crayf Satur Shalld FAC-	Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Pattems (B10) eason Water Table (C2) Muck Surface (C7) sh Burrows (C8) ation Visible on Aerial Imagery (C9) ow Aguitard (D3) Neutral Test (D5)
Remarks:         YDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (any one indicator is sufficient of the suffic	Int) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dxidized Rhizospheres along Liv Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Other (Explain in Remarks) Depth (inches): U Depth (inches):	ing Roots ( Solls (C6) Wetland	Water Water Sedin Drift I Drift I Dry-S C3) Thin I Crayf Satur Shalld FAC-	Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Pattems (B10) eason Water Table (C2) Muck Surface (C7) sh Burrows (C8) ation Visible on Aerial Imagery (C9) ow Aguitard (D3) Neutral Test (D5)
Remarks:         YDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (any one indicator is sufficient of the suffic	Int) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dxidized Rhizospheres along Liv Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Other (Explain in Remarks) Depth (inches): U Depth (inches):	ing Roots ( Solls (C6) Wetland	Water Water Sedin Drift I Drift I Dry-S C3) Thin I Crayf Satur Shalld FAC-	Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Pattems (B10) eason Water Table (C2) Muck Surface (C7) sh Burrows (C8) ation Visible on Aerial Imagery (C9) ow Aguitard (D3) Neutral Test (D5)
Remarks:         YDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (any one indicator is sufficient of the suffic	Int) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dxidized Rhizospheres along Liv Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Other (Explain in Remarks) Depth (inches): U Depth (inches):	ing Roots ( Solls (C6) Wetland	Water Water Sedin Drift I Drift I Dry-S C3) Thin I Crayf Satur Shalld FAC-	Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Pattems (B10) eason Water Table (C2) Muck Surface (C7) sh Burrows (C8) ation Visible on Aerial Imagery (C9) ow Aguitard (D3) Neutral Test (D5)
Remarks:         YDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (any one indicator is sufficient of the suffic	Int) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dxidized Rhizospheres along Liv Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Other (Explain in Remarks) Depth (inches): U Depth (inches):	ing Roots ( Solls (C6) Wetland	Water Water Sedin Drift I Drift I Dry-S C3) Thin I Crayf Satur Shalld FAC-	Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Pattems (B10) eason Water Table (C2) Muck Surface (C7) sh Burrows (C8) ation Visible on Aerial Imagery (C9) ow Aguitard (D3) Neutral Test (D5)
Remarks:         YDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (any one indicator is sufficient of the suffic	Int) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dxidized Rhizospheres along Liv Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Other (Explain in Remarks) Depth (inches): U Depth (inches):	ing Roots ( Solls (C6) Wetland	Water Water Sedin Drift I Drift I Dry-S C3) Thin I Crayf Satur Shalld FAC-	Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Pattems (B10) eason Water Table (C2) Muck Surface (C7) sh Burrows (C8) ation Visible on Aerial Imagery (C9) ow Aguitard (D3) Neutral Test (D5)
Remarks:         YDROLOGY         Vetland Hydrology Indicators:         Primary Indicators (any one indicator is sufficient of the suffic	Int) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dxidized Rhizospheres along Liv Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Other (Explain in Remarks) Depth (inches): U Depth (inches):	ing Roots ( Solls (C6) Wetland	Water Water Sedin Drift I Drift I Dry-S C3) Thin I Crayf Satur Shalld FAC-	Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Pattems (B10) eason Water Table (C2) Muck Surface (C7) sh Burrows (C8) ation Visible on Aerial Imagery (C9) ow Aguitard (D3) Neutral Test (D5)
Remarks:         YDROLOGY         Vetland Hydrology Indicators:         Primary Indicators (any one indicator is sufficient of the suffic	Int) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dxidized Rhizospheres along Liv Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Other (Explain in Remarks) Depth (inches): U Depth (inches):	ing Roots ( Solls (C6) Wetland	Water Water Sedin Drift I Drift I Dry-S C3) Thin I Crayf Satur Shalld FAC-	Marks (B1) (Riverine) nent Deposits (B2) (Riverine) Deposits (B3) (Riverine) age Pattems (B10) eason Water Table (C2) Muck Surface (C7) sh Burrows (C8) ation Visible on Aerial Imagery (C9) ow Aguitard (D3) Neutral Test (D5)

### WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	City	County: 604	n Bernardine	_ Sampling Date: 3/16/07
				_ Sampling Point: $\underline{K\partial} - \underline{\zeta}$
investigator(s): J. Halson, J. Windholf	Sec	tion, Township, I	Range:	
Landform (hillslope, terrace, etc.): Valia Filo/	Loc	al relief (concav	e, convex, none): <u>(and</u>	<u>аци</u> Slope (%): <u>Э%</u>
Subregion (LRR):	-at 13 -11	5.770553	-Long: N 35,410	155 Datum: <u>NRD 1</u>
Soil Map Unit Name: <u>IJA</u>		/	NWI classif	ication: NA ZONE 11
Are climatic / hydrotogic conditions on the site typical for this tin	ne of year?	Yes No	) (If no, explain in	Remarks.)
Are Vegetation Na , Soil, or Hydrology signi			e "Normal Circumstances"	present? Yes No
Are Vegetation No, Soil , or Hydrology 💆 natu	rally problen	natic? (If	needed, explain any answ	ers in Remarks.)
SUMMARY OF FINDINGS – Attach site map she	owing sa	mpling point	t locations, transect	s, important features, etc
Hydrophytic Vegetation Present? Yes No	J.	Is the Sampl	ed Area	/
Hydric Soil Present? Yes No		within a Wet		No
Wetland Hydrology Present? Yes No	<u>_V</u>			A hard to the
Remarks:		o Hiw M	w-1'  x-3''  s-4:1	Photos: 8918-5 8919-N
EGETATION			·	· · ·
		minant Indicato ecles? Status	1	•
1				
2			- Total Number of Domi	nant 2
3			_ Species Across All Str	rata: (B)
Total Cover:	<u> </u>		Percent of Dominant 9	Species
Sapling/Shrub Stratum		, N	That Are OBL, FACW,	<u> </u>
1. Hymenodea Salsola	3'	í dre	Prevalence Index wo	
2			<u>Total % Cover of:</u>	<u> </u>
3				x2=
5			FAC species	x 3 =
	3		FACU species	x4=
Herb Stratum	۶n [.] ۲	1 . J. R. M. 1		$x_5 = \frac{320}{320}$
1. <u>Salsola tragus</u>	<u>,                                     </u>	J WPF1	–   Column Totais: <u>(ol-</u> / Vi	(A) <u>52-64</u> (B)
	40	1 HAT	Prevalence inde	x = B/A =
4			- Hydrophytic Vegetat	
5,			_ Dominance Test i	۱. ۱
3			Prevalence index	is ≤3,0° aptations¹ (Provide supporting
7			data in Reman	ks or on a separate sheet)
Total Cover: 6			Problematic Hydro	ophytic Vegetation ¹ (Explain)
<u>Voody Vine Stratum</u>	<u> </u>			
l	•		be present.	oil and wetland hydrology must
2 Total Cover:	<u></u>	······································	- Hydrophytic	
0 •	•	للاعر	Vegetation	BSNO_N
	souc Crust		Flesent f	שאַן <u>אַר</u> שאַן <u>אַר</u>
vemarks:				
	F-I	.1-102		

SOIL

Sampling Point: (1)-(0

Depth (inches)	Matrix Color (moist)	%	<u>Color (moist)</u>	ox Features %Type	Loc ²	Texture	Remai	rks
16							L	
	<u> </u>			····				
								<u></u>
		·						······································
	<u> </u>	·						
		. <u> </u>				P		
			A					
								·····
	oncentration, D≍Depl				ore Lining, R			
ydric Soil I	ndicators: (Applica	able to all LF	RRs, unless othe	rwise noted.)		Indicators fo	r Problematic Hyd	ric Soils ³ :
Histosol			Sandy Red				xk (A9) (LRR C)	
	ipedon (A2)		Stripped M				ж (А10) (LRR В)	
Black His			— ·	cky Mineral (F1)			Vertic (F18) Int Material (TF2)	
	n Sulfide (A4) Layers (A5) (LRR C	· <b>\</b>	Depleted M	yed Matrix (F2) latrix (F3)			plain in Remarks)	
	ck (A9) (LRR D)	)		K Surface (F6)			plainin Komarkay	•
_	Below Dark Surface	(A11)		ark Surface (F7)				
	rk Surface (A12)	. ,	Redox Dep	ressions (F8)				
	ucky Mineral (S1)		Vernal Pool	ls (F9)	•		hydrophytic vegetar	
	eyed Matrix (S4)					wetland hy	drology must be pro	esent.
	ayer (if present):					Ì		
	nes):					I Hydric Soll Pr	esent? Yes	<u> </u>
emarks:						1		ι.
	•••							,
DROLOG							v Indicators (2 or m	nore required)
DROLOG etland Hydr	ology Indicators:	ior is sufficien				Seconda	ry Indicators (2 or m er Marks (B1) (Rive	
DROLOG atland Hydr mary Indica	ology Indicators: tors (any one indicat	lor is sufficier	nt)	(B11)		<u>Seconda</u> Wate	er Marks (B1) (Rive	ríne)
DROLOG atland Hydr mary Indica Surface W	ology Indicators: tors (any one indicat /ater (A1)	or is sufficien	nt) Salt Crust			<u>Seconda</u> Wate Sedi	er Marks (B1) (Rive ment Deposits (B2)	ríne) (Riverine)
DROLOG atland Hydr mary Indica Surface W High Wate	ology Indicators: tors (any one indicat /ater (A1) er Table (A2)	lor is sufficier	nt) Salt Crust Biotic Crust			<u>Seconda</u> Wate Sedi	er Marks (Β1) (Rive πent Deposits (Β2) Deposits (Β3) (Rive	rine) (Riverine) erine)
DROLOG etland Hydr imary Indica _ Surface W _ High Wate _ Saturation	ology Indicators: tors (any one indicat /ater (A1) er Table (A2)		nt) Salt Crust Biotic Crus Aquatic Inv	t (812)		<u>Seconda</u> Wate Sedi Drift Drair	er Marks (B1) (Rive ment Deposits (B2)	rine) (Riverine) erine) )
DROLOG etland Hydr imary Indica _ Surface W _ High Wate _ Saturation _ Water Mater	ology Indicators: tors (any one indicat /ater (A1) er Table (A2) I (A3)	e) [,]	nt) Salt Crust Biotic Crus Aquatic Inv Hydrogen S	t (B12) vertebrates (B13)	Living Roots	<u>Seconda</u> Wate Sedi Drift Drair Dry-S	er Marks (B1) (Rive ment Deposits (B2) Deposits (B3) (Rive aage Patterns (B10)	ríne) (Riverine) erine) ∋ e (C2)
DROLOG etland Hydr imary Indica Surface W High Wate Saturation Water Mar Sediment	ology Indicators: tors (any one indicat /ater (A1) er Table (A2) I (A3) rks (B1) (Nonriverin	e) iverine)	nt) Salt Crust Biotic Crus Aquatic Inv Hydrogen S Oxidized R	it (B12) vertebrates (B13) Sulfide Odor (C1)		Seconda Wate Sedii Drift Drair Dry-5 s (C3) Thin	er Marks (B1) (Rive ment Deposits (B2) Deposits (B3) (Rive nage Patterns (B10) Season Water Table	ríne) (Riverine) erine) ∋ e (C2)
DROLOG etland Hydr imary Indica Surface W High Wate Saturation Water Mar Sediment Drift Depo	ology Indicators: tors (any one indicat /ater (A1) ar Table (A2) I (A3) rks (B1) (Nonriverin Deposits (B2) (Nonr	e) iverine)	nt) Salt Crust Biotic Crus Aquatic Inv Hydrogen t Oxidized R Presence c	it (B12) vertebrates (B13) Sulfide Odor (C1) thizospheres along	4)	<u>Seconda</u> Wate Sedi Drift Drair Dry-S s (C3) Thin Cray	er Marks (B1) (Rive ment Deposits (B2) Deposits (B3) (Rive nage Patterns (B10) Season Water Table Muck Surface (C7)	ríne) (Riverine) erine) ) e (C2)
DROLOG etland Hydr imary Indica Surface W High Water Saturation Water Mai Sediment Drift Depo Surface So	ology Indicators: tors (any one indicat /ater (A1) er Table (A2) (A3) rks (B1) (Nonriverin Deposits (B2) (Nonr sits (B3) (Nonriverin	e) Iverine) ne)	nt) Salt Crust Biotic Crus Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iron	it (B12) vertebrates (B13) Sulfide Odor (C1) thizospheres along of Reduced Iron (C	4)	<u>Seconda</u> Wate Sedi Drift Dry-S s (C3) Thin Cray 6) Satu	er Marks (B1) (Rive ment Deposits (B2) Deposits (B3) (Rive hage Patterns (B10) Season Water Table Muck Surface (C7) fish Burrows (C8)	ríne) (Riverine) erine) ) e (C2)
DROLOG etland Hydr imary Indica Surface W High Wate Saturation Water Mar Sediment Drift Depo Surface Sa Inundation Water-Sta	rology Indicators: tors (any one indicat /ater (A1) er Table (A2) (A3) rks (B1) (Nonriverin Deposits (B2) (Nonriverin sits (B3) (Nonriverin oil Cracks (B6) ( Visible on Aerial Im Ined Leaves (B9)	e) Iverine) ne)	nt) Salt Crust Biotic Crus Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iron	it (812) vertebrates (813) Sulfide Odor (C1) thizospheres along of Reduced Iron (C n Reduction in Ploy	4)	<u>Seconda</u> 	er Marks (B1) (Rive ment Deposits (B2) Deposits (B3) (Rive hage Patterns (B10) Season Water Table Muck Surface (C7) fish Burrows (C8) ration Visible on Ae	ríne) (Riverine) erine) ) e (C2)
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DROLOG etland Hydr imary Indica Surface W High Water Saturation Water Mai Sediment Drift Depo Surface Sa Inundation Water-Sta Id Observa rface Water ater Table Pre- turation Pre- cludes capili	rology Indicators: tors (any one indicators) /ater (A1) ar Table (A2) (A3) rks (B1) (Nonriverin Deposits (B2) (Nonriverin bil Cracks (B6) visible on Aerial Im Ined Leaves (B9) tions: Present? Yes sent? Yes	e) iverine) ne) agery (B7) 5 No _ 5 No _	nt) Salt Crust Biotic Crust Aquatic Inv Hydrogen 3 Oxidized R Presence c Recent Iror Other (Exp Depth (inc Depth (inc Depth (inc	et (B12) vertebrates (B13) Sulfide Odor (C1) thizospheres along of Reduced iron (C n Reduction in Ploy lain in Remarks) thes): thes):	4) ved Soils (C 	Seconda 	er Marks (B1) (Rive ment Deposits (B2) Deposits (B3) (Rive hage Patterns (B10) Season Water Table Muck Surface (C7) fish Burrows (C8) ration Visible on Ae ow Aquitard (D3) Neutral Test (D5)	ríne) (Riverine) erine) e (C2) ríal Imagery (C9)
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imary Indica Surface W High Water Saturation Water Mai Sediment Drift Depo Surface Sa Inundation Water-Sta Ind Observa Ind Observa Ind Coserva Surface Water Surface Water	ology Indicators: tors (any one indicat /ater (A1) Pr Table (A2) (A3) rks (B1) (Nonriverin Deposits (B2) (Nonriverin sits (B3) (Nonriverin oil Cracks (B6) Visible on Aeriat Im Ined Leaves (B9) tions: Present? Yes sent? Yes any fringe)	e) iverine) ne) agery (B7) 5 No _ 5 No _	nt) Salt Crust Biotic Crust Aquatic Inv Hydrogen 3 Oxidized R Presence c Recent Iror Other (Exp Depth (inc Depth (inc Depth (inc	et (B12) vertebrates (B13) Sulfide Odor (C1) thizospheres along of Reduced iron (C n Reduction in Ploy lain in Remarks) thes): thes):	4) ved Soils (C 	Seconda 	er Marks (B1) (Rive ment Deposits (B2) Deposits (B3) (Rive hage Patterns (B10) Season Water Table Muck Surface (C7) fish Burrows (C8) ration Visible on Ae ow Aquitard (D3) Neutral Test (D5)	ríne) (Riverine) erine) e (C2) ríal Imagery (C9)
DROLOG etland Hydr imary Indica Surface W High Water Saturation Water Mar Sediment Drift Depo Surface Sa Inundation Water-Sta eld Observa rface Water ater Table Pre- turation Pre- cludes capill scribe Reco	ology Indicators: tors (any one indicat /ater (A1) Pr Table (A2) (A3) rks (B1) (Nonriverin Deposits (B2) (Nonriverin sits (B3) (Nonriverin oil Cracks (B6) Visible on Aeriat Im Ined Leaves (B9) tions: Present? Yes sent? Yes any fringe)	e) iverine) ne) agery (B7) 5 No _ 5 No _	nt) Salt Crust Biotic Crust Aquatic Inv Hydrogen 3 Oxidized R Presence c Recent Iror Other (Exp Depth (inc Depth (inc Depth (inc	et (B12) vertebrates (B13) Sulfide Odor (C1) thizospheres along of Reduced iron (C n Reduction in Ploy lain in Remarks) thes): thes):	4) ved Soils (C 	Seconda 	er Marks (B1) (Rive ment Deposits (B2) Deposits (B3) (Rive hage Patterns (B10) Season Water Table Muck Surface (C7) fish Burrows (C8) ration Visible on Ae ow Aquitard (D3) Neutral Test (D5)	ríne) (Riverine) erine) e (C2) ríal Imagery (C9)
DROLOG etland Hydr imary Indica Surface W High Water Saturation Water Mar Sediment Drift Depo Surface So Inundation Water-Sta Id Observa rface Water ater Table Pre- turation Pre- cludes capill scribe Reco	ology Indicators: tors (any one indicat /ater (A1) Pr Table (A2) (A3) rks (B1) (Nonriverin Deposits (B2) (Nonriverin sits (B3) (Nonriverin oil Cracks (B6) Visible on Aeriat Im Ined Leaves (B9) tions: Present? Yes sent? Yes any fringe)	e) iverine) ne) agery (B7) 5 No _ 5 No _	nt) Salt Crust Biotic Crust Aquatic Inv Hydrogen 3 Oxidized R Presence c Recent Iror Other (Exp Depth (inc Depth (inc Depth (inc	et (B12) vertebrates (B13) Sulfide Odor (C1) thizospheres along of Reduced iron (C n Reduction in Ploy lain in Remarks) thes): thes):	4) ved Soils (C 	Seconda 	er Marks (B1) (Rive ment Deposits (B2) Deposits (B3) (Rive hage Patterns (B10) Season Water Table Muck Surface (C7) fish Burrows (C8) ration Visible on Ae ow Aquitard (D3) Neutral Test (D5)	ríne) (Riverine) erine) e (C2) ríal Imagery (C9)
DROLOG atland Hydr mary Indica Surface W High Wate Saturation Water Mai Sediment Drift Depo Surface So Inundation Water-Sta Id Observa face Water ter Table Pr uration Pres Judes capill acribe Reco	rology Indicators: tors (any one indicators: /ater (A1) ar Table (A2) (A3) rks (B1) (Nonriverin Deposits (B2) (Nonriverin oil Cracks (B6) visible on Aerial Im ined Leaves (B9) tions: Present? Yes sent? Yes sent? Yes any fringe) rded Data (stream generic)	e) iverine) ne) agery (B7) 5 No _ 5 No _ auge, monito	nt) Salt Crust Biotic Crus Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iror Other (Exp / Depth (inc Depth (inc Depth (inc Depth (inc Depth (inc Depth (inc	et (B12) vertebrates (B13) Sulfide Odor (C1) thizospheres along of Reduced iron (C n Reduction in Ploy lain in Remarks) thes): thes):	4) ved Soils (C 	Seconda 	er Marks (B1) (Rive ment Deposits (B2) Deposits (B3) (Rive hage Patterns (B10) Season Water Table Muck Surface (C7) fish Burrows (C8) ration Visible on Ae ow Aquitard (D3) Neutral Test (D5)	ríne) (Riverine) erine) e (C2) ríal Imagery (C9)

### WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site:	City	County: See	Bunta CS & Dite Sampling Date: 3/16/08
pplicant/Owner: <u>GIELE POINT</u>			State: <u>LA</u> Sampling Point: <u>60-7-</u>
Investigatorist J. Halson, J. Windbolt	Sec	tion, Township, Rar	nge:
Landform (hillslope, terrace, etc.); Valky Flove	Loc	al relief (concave, o	convex, none): <u>Concars(</u> Slope (%): <u>J.7/6</u>
Subregion (LRR): D		5,766723	TONG: N 35,411964 Datum: NRD
Soil Map Unit Name: N/A			NWI classification: NA ZONE (
Are climatic / hydrologic conditions on the site typical for	this time of year?	Yes No	(If no, explain in Remarks.)
Are Vegetation No. Soil, or Hydrology	significantly dist	urbed? Are "	Normal Circumstances" present? Yes No
Are Vegetation <u>No</u> , Soil , or Hydrology	naturally probler	natic? (If ne	eded, explain any answers in Remarks.)
			ocations, transects, important features, etc.
	No	is the Sampled	Area
Hydric Soil Present? Yes Wetland Hydrology Present? Yes	No V	within a Wetlan	d? Yes No
Remarks:		9 HWM (W - 1)	1 (hotos: 8817-5
	-	h-31 5-4	1 8816-N
			r(
VEGETATION	Al - the D	minant Indicator	Dominance Test worksheet:
Tree Stratum (Use scientific names.)		becies? <u>Status</u>	Number of Dominant Species
1			That Are OBL, FACW, or FAC: (A)
2			Total Number of Dominant
3			Species Across All Strata: / (B)
Total Co	over:		Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum	- ``	r whe	Prevalence Index worksheet:
1. Hymenoclea salsola 2. Atriplex rovesons		- the	Total % Cover of: Multiply by:
3			OBL species x 1 =
4			FACW species x 2 =
5			FAC species x 3 =
Total Co	over: <u>3</u>		FACU species $x4 =$ UPL species $\overline{26}$ $x5 = \underline{140}$
Herb Stratum 1. Erodium cicutorium	6	y uft NI	Column Totals: $28$ (A) $140$ (B)
2. Bronnes tectorum		U GPT ML	· سر
3. Dristido pur purea		W UPL NL	
4. Eriogonum defleyun			- Hydrophytic Vegetation Indicators: Dominance Test is >50%
5. Balsola trages		I LIFE (FACUT)	Prevalence Index is $\leq 3.0^{\circ}$
6. 3(= 5. hall 7 Are = S. pestifer)_		(FACU)	Morphological Adaptations ¹ (Provide supporting
		¥	data in Remarks or on a separate sheet)
C Total Co	over: <u>25</u>		Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum			¹ Indicators of hydric soil and wetland hydrology must
1			be present.
Z Total Co	ver: <u>Ø</u>		Hydrophytic
Bare Ground in Herb Stratum 75 % Co	-	CX I	Vegetation Present? Yes <u>No</u>
Kemarks:		7	
(Chanor			
	F	-I.1-104	

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SOIL

Sampling Point: 10-7

ofile Description: (Describe to the depth needed to document the indic	
eptn (Viality) % Ty	ype ¹ Loc ² Texture Remarks
$\frac{\text{Color (moist)}}{(10 \text{ Ve } \text{ Vz})} = \frac{10 \text{ Ve } \text{ Vz}}{(10 \text{ Ve } \text{ Vz})} = \frac{10 \text{ Ve } \text{ Vz}}{(10 \text{ Ve } \text{ Vz})} = \frac{10 \text{ Ve } \text{ Vz}}{(10 \text{ Ve } \text{ Vz})} = \frac{10 \text{ Ve } \text{ Vz}}{(10 \text{ Ve } \text{ Vz})} = \frac{10 \text{ Ve } \text{ Vz}}{(10 \text{ Ve } \text{ Vz})} = \frac{10 \text{ Ve } \text{ Vz}}{(10 \text{ Ve } \text{ Vz})} = \frac{10 \text{ Ve } \text{ Vz}}{(10 \text{ Ve } \text{ Vz})} = \frac{10 \text{ Ve } \text{ Vz}}{(10 \text{ Ve } \text{ Vz})} = \frac{10 \text{ Ve } \text{ Vz}}{(10 \text{ Ve } \text{ Vz})} = \frac{10 \text{ Ve } \text{ Vz}}{(10 \text{ Ve } \text{ Vz})} = \frac{10 \text{ Ve } \text{ Vz}}{(10 \text{ Ve } \text{ Vz})} = \frac{10 \text{ Ve } \text{ Vz}}{(10 \text{ Ve } \text{ Vz})} = \frac{10 \text{ Ve } \text{ Vz}}{(10 \text{ Ve } \text{ Vz})} = \frac{10 \text{ Ve } \text{ Vz}}{(10 \text{ Ve } \text{ Vz})} = \frac{10 \text{ Ve } \text{ Vz}}{(10 \text{ Ve } \text{ Vz})} = \frac{10 \text{ Ve } \text{ Vz}}{(10 \text{ Ve } \text{ Vz})} = \frac{10 \text{ Ve } \text{ Vz}}{(10 \text{ Ve } \text{ Vz})} = \frac{10 \text{ Ve } \text{ Vz}}{(10 \text{ Ve } \text{ Vz})} = \frac{10 \text{ Ve } \text{ Vz}}{(10 \text{ Ve } \text{ Vz})} = \frac{10 \text{ Ve } \text{ Vz}}{(10 \text{ Ve } \text{ Vz})} = \frac{10 \text{ Ve } \text{ Vz}}{(10 \text{ Ve } \text{ Vz})} = \frac{10 \text{ Ve } \text{ Vz}}{(10 \text{ Ve } \text{ Vz})} = \frac{10 \text{ Vz}}{(10 \text{ Vz})}$	avoidly soul
pe: C=Concentration, D=Depletion, RM=Reduced Matrix. ² Location: P	L=Pore Lining, RC=Root Channel, M=Matrix. Indicators for Problematic Hydric Soils ³ :
pe: C=Concentration, D=Depiction, run reserved.) dric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	
Historol (A1) Sandy Redox (So)	1 cm Muck (A9) (LRR C) 2 cm Muck (A10) (LRR B)
Stripped Matrix (50)	
Histic Epipedon (A2) Loamy Mucky Mineral (F Black Histic (A3) Loamy Gleyed Matrix (F2	Red Parent Material (TF2)
	Other (Explain in Remarks)
Stratiled Layers (AB) (LRR D) Redox Dark Surface (F6)	
Depleted Dark Surface (A11) Depleted Dark Surface (F	
Thick Dark Surface (A12) Redox Depressions (Fo)	³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1) Vernal Pools (F9)	wetland hydrology must be present.
Sandy Gleyed Matrix (S4)	
strictive Layer (if present):	
Туре:	Hydric Soil Present? Yes No
Depth (inches):	
emarks:	
~	
DROLOGY	Secondary Indicators (2 or more required)
DROLOGY etiand Hydrology Indicators:	Water Marks (B1) (Riverine)
DROLOGY etiand Hydrology Indicators: mary Indicators (any one indicator is sufficient)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine)
DROLOGY atland Hydrology Indicators: mary Indicators (any one indicator is sufficient) Surface Water (A1) Salt Crust (B11)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine)
DROLOGY stiand Hydrology Indicators: mary Indicators (any one indicator is sufficient) Surface Water (A1) Salt Crust (B11) High Water Table (A2) Biotic Crust (B12)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10)
DROLOGY stiand Hydrology Indicators: mary Indicators (any one indicator is sufficient) Surface Water (A1) Salt Crust (B11) High Water Table (A2) Biotic Crust (B12) Saturation (A3) Aquatic Invertebrates (	(B13) Water Marks (B1) (Riverine) Drift Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2)
DROLOGY stiand Hydrology Indicators: mary Indicators (any one Indicator is sufficient) Surface Water (A1)Salt Crust (B11) High Water Table (A2)Biotic Crust (B12) Saturation (A3)Aquatic Invertebrates ( Water Marks (B1) (Nonriverine)Hydrogen Sulfide Odor Oxidized Rhizosphered	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) r (C1) s along Living Roots (C3) Thin Muck Surface (C7)
DROLOGY stiand Hydrology Indicators: mary Indicators (any one indicator is sufficient) Surface Water (A1)	Water Marks (B1) (Riverine)         Sediment Deposits (B2) (Riverine)         Drift Deposits (B3) (Riverine)         Drainage Patterns (B10)         r (C1)       Dry-Season Water Table (C2)         s along Living Roots (C3)       Thin Muck Surface (C7)         Iron (C4)       Crayfish Burrows (C8)
DROLOGY         stiand Hydrology Indicators:         mary Indicators (any one indicator is sufficient)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Biotic Crust (B12)         Saturation (A3)       Aquatic Invertebrates (         Water Marks (B1) (Nonriverine)       Hydrogen Sulfide Odor         Sediment Deposits (B2) (Nonriverine)       Oxidized Rhizospheres         Drift Deposits (B3) (Nonriverine)       Presence of Reduced         Recent Iron Reduction       Recent Iron Reduction	Water Marks (B1) (Riverine)         Sediment Deposits (B2) (Riverine)         Drift Deposits (B3) (Riverine)         Drift Deposits (B3) (Riverine)         Drainage Patterns (B10)         r (C1)         Dry-Season Water Table (C2)         s along Living Roots (C3)         Thin Muck Surface (C7)         Iron (C4)         Crayfish Burrows (C8)         a in Plowed Soils (C6)
DROLOGY Itland Hydrology Indicators: mary Indicators (any one indicator is sufficient) Surface Water (A1)Salt Crust (B11) High Water Table (A2)Biotic Crust (B12) Saturation (A3)Aquatic invertebrates ( Water Marks (B1) (Nonriverine)Hydrogen Sulfide Odor Sediment Deposits (B2) (Nonriverine)Oxidized Rhizospheres Drift Deposits (B3) (Nonriverine)Presence of Reduced Surface Soil Cracks (B6)Recent Iron Reduction	Water Marks (B1) (Riverine)         Sediment Deposits (B2) (Riverine)         Drift Deposits (B3) (Riverine)         Drainage Patterns (B10)         r (C1)         s along Living Roots (C3)         Thin Muck Surface (C7)         Iron (C4)         a in Plowed Soils (C6)         arks)
DROLOGY tland Hydrology Indicators: mary Indicators (any one indicator is sufficient) Surface Water (A1)Salt Crust (B11) High Water Table (A2)Biotic Crust (B12) Saturation (A3)Aquatic invertebrates ( Water Marks (B1) (Nonriverine)Hydrogen Sulfide Odor Sediment Deposits (B2) (Nonriverine)Oxidized Rhizospheres Drift Deposits (B3) (Nonriverine)Presence of Reduced Surface Soil Cracks (B6)Recent Iron Reduction	Water Marks (B1) (Riverine)         Sediment Deposits (B2) (Riverine)         Drift Deposits (B3) (Riverine)         Drainage Patterns (B10)         r (C1)         s along Living Roots (C3)         Thin Muck Surface (C7)         Iron (C4)         a in Plowed Soils (C6)         arks)
DROLOGY         stland Hydrology Indicators:         mary Indicators (any one indicator is sufficient)         Surface Water (A1)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) r (C1) Dry-Season Water Table (C2) s along Living Roots (C3) Thin Muck Surface (C7) Iron (C4) Crayfish Burrows (C8) a in Plowed Soils (C6) Saturation Visible on Aerial Imagery ( arks) FAC-Neutral Test (D5)
DROLOGY         etland Hydrology Indicators:         mary Indicators (any one indicator is sufficient)         Surface Water (A1)	Water Marks (B1) (Riverine)         Sediment Deposits (B2) (Riverine)         Drift Deposits (B3) (Riverine)         Drift Deposits (B3) (Riverine)         Thin Deposits (B3) (Riverine)         Drainage Patterns (B10)         r (C1)         Dry-Season Water Table (C2)         s along Living Roots (C3)         Thin Muck Surface (C7)         Iron (C4)         a in Plowed Soils (C6)         Shallow Aquitard (D3)         FAC-Neutral Test (D5)
DROLOGY         attand Hydrology Indicators:         mary Indicators (any one indicator is sufficient)         Surface Water (A1)	Water Marks (B1) (Riverine) Water Marks (B1) (Riverine) Constant Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) r (C1) r (C1) s along Living Roots (C3) Thin Muck Surface (C7) Iron (C4) Crayfish Burrows (C8) ain Plowed Soils (C6) Saturation Visible on Aerial Imagery (C Shallow Aquitard (D3) FAC-Neutral Test (D5)
DROLOGY         stiand Hydrology Indicators:         mary Indicators (any one indicator is sufficient)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Biotic Crust (B12)         Saturation (A3)       Aquatic invertebrates (         Water Marks (B1) (Nonriverine)       Hydrogen Sulfide Odor         Sediment Deposits (B2) (Nonriverine)       Oxidized Rhizosphered         Drift Deposits (B3) (Nonriverine)       Presence of Reduced         Surface Soil Cracks (B6)       Recent Iron Reduction         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Rem         Water-Stained Leaves (B9)       Water Yresent?         eid Observations:       Yes       No         urface Water Present?       Yes       No       Depth (inches):         ater Table Present?       Yes       No       Depth (inches):       Maturation Present?	Water Marks (B1) (Riverine)         Sediment Deposits (B2) (Riverine)         Drift Deposits (B3) (Riverine)         Drift Deposits (B3) (Riverine)         Thin Deposits (B3) (Riverine)         r (C1)         Dry-Season Water Table (C2)         s along Living Roots (C3)         Thin Muck Surface (C7)         Iron (C4)         ain Plowed Soils (C6)         Shallow Aquitard (D3)         FAC-Neutral Test (D5)
DROLOGY         stiand Hydrology Indicators:         mary Indicators (any one indicator is sufficient)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Biotic Crust (B12)         Saturation (A3)       Aquatic invertebrates (         Water Marks (B1) (Nonriverine)       Hydrogen Sulfide Odor         Sediment Deposits (B2) (Nonriverine)       Oxidized Rhizosphered         Drift Deposits (B3) (Nonriverine)       Presence of Reduced         Surface Soil Cracks (B6)       Recent Iron Reduction         Inundation Visible on Aerial imagery (B7)       Other (Explain in Rem         Water-Stained Leaves (B9)       Water Present?         eld Observations:       Yes       No         urface Water Present?       Yes       No       Depth (inches):         ater Table Present?       Yes       No       Depth (inches):       Maturation Present?	Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drift Deposits (B3) (Riverine)  Drift Deposits (B3) (Riverine)  Drift Deposits (B3) (Riverine)  Dry-Season Water Table (C2)  s along Living Roots (C3) Thin Muck Surface (C7) Iron (C4) Crayfish Burrows (C8) arks) Shallow Aquitard (D3) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No
DROLOGY         etfand Hydrology Indicators:         mary Indicators (any one indicator is sufficient)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Biotic Crust (B12)         Saturation (A3)       Aquatic invertebrates (         Water Marks (B1) (Nonriverine)       Hydrogen Sulfide Odor         Sediment Deposits (B2) (Nonriverine)       Oxidized Rhizospheres         Drift Deposits (B3) (Nonriverine)       Presence of Reduced         Surface Soil Cracks (B6)       Recent Iron Reduction         Inundation Visible on Aerial Imagery (B7)       Other (Explain In Rem         Water-Stained Leaves (B9)       Ves         etd Observations:       Yes         Urface Water Present?       Yes         No       Vepth (inches):	Water Marks (B1) (Riverine)         Sediment Deposits (B2) (Riverine)         Drift Deposits (B3) (Riverine)         Drift Deposits (B3) (Riverine)         Thin Deposits (B3) (Riverine)         r (C1)         Dry-Season Water Table (C2)         s along Living Roots (C3)         Thin Muck Surface (C7)         Iron (C4)         ain Plowed Soils (C6)         Shallow Aquitard (D3)         FAC-Neutral Test (D5)
DROLOGY         stland Hydrology Indicators:         mary Indicators (any one indicator is sufficient)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Biotic Crust (B12)         Saturation (A3)       Aquatic invertebrates (         Water Marks (B1) (Nonriverine)       Hydrogen Suffide Odor         Sediment Deposits (B2) (Nonriverine)       Oxidized Rhizospheres         Drift Deposits (B3) (Nonriverine)       Presence of Reduced         Surface Soil Cracks (B6)       Recent Iron Reduction         Inundation Visible on Aerial Imagery (B7)       Other (Explain In Rem         Water-Stained Leaves (B9)       Water Present?         elid Observations:       Yes       No         Inface Water Present?       Yes       No       Depth (inches):         ater Table Present?       Yes       No       Depth (inches):       Inchudes):         ater Table Present?       Yes       No       Depth (inches):       Inchudes):       Inchudes):         ater Table Present?       Yes       No       Depth (inches):       Inchudes):       Inchudes): <td< td=""><td>Water Marks (B1) (Riverine)         Sediment Deposits (B2) (Riverine)         Drift Deposits (B3) (Riverine)         Drift Deposits (B3) (Riverine)         Thin Deposits (B3) (Riverine)         r (C1)         Dry-Season Water Table (C2)         s along Living Roots (C3)         Thin Muck Surface (C7)         Iron (C4)         ain Plowed Soils (C6)         Shallow Aquitard (D3)         FAC-Neutral Test (D5)</td></td<>	Water Marks (B1) (Riverine)         Sediment Deposits (B2) (Riverine)         Drift Deposits (B3) (Riverine)         Drift Deposits (B3) (Riverine)         Thin Deposits (B3) (Riverine)         r (C1)         Dry-Season Water Table (C2)         s along Living Roots (C3)         Thin Muck Surface (C7)         Iron (C4)         ain Plowed Soils (C6)         Shallow Aquitard (D3)         FAC-Neutral Test (D5)
DROLOGY         stiand Hydrology Indicators:         mary Indicators (any one indicator is sufficient)         Surface Water (A1)	Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drift Deposits (B3) (Riverine)  Drift Deposits (B3) (Riverine)  Drift Deposits (B3) (Riverine)  Dry-Season Water Table (C2)  s along Living Roots (C3) Thin Muck Surface (C7) Iron (C4) Crayfish Burrows (C8) in Plowed Soils (C6) Saturation Visible on Aerial Imagery ( arks) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No
DROLOGY         stiand Hydrology Indicators:         mary Indicators (any one indicator is sufficient)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Biotic Crust (B12)         Saturation (A3)       Aquatic invertebrates (         Water Marks (B1) (Nonriverine)       Hydrogen Sulfide Odor         Sediment Deposits (B2) (Nonriverine)       Oxidized Rhizosphered         Drift Deposits (B3) (Nonriverine)       Presence of Reduced         Surface Soil Cracks (B6)       Recent Iron Reduction         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Rem         Water-Stained Leaves (B9)       Water Yresent?         eid Observations:       Yes       No         urface Water Present?       Yes       No       Depth (inches):         ater Table Present?       Yes       No       Depth (inches):       Maturation Present?	Water Marks (B1) (Riverine)         Sediment Deposits (B2) (Riverine)         Drift Deposits (B3) (Riverine)         Drift Deposits (B3) (Riverine)         Thin Deposits (B3) (Riverine)         r (C1)         Dry-Season Water Table (C2)         s along Living Roots (C3)         Thin Muck Surface (C7)         Iron (C4)         ain Plowed Soils (C6)         Shallow Aquitard (D3)         FAC-Neutral Test (D5)

#### WETLAND DETERMINATION DATA FORM - Arid West Region Sam Renverdiver Sampling Date: 3/16/08 City/County: Project/Site: State: (A Sampling Point: 60-8 Citcle Point pplicant/Owner: Investigator(s): J. Holson, J. 1. S. Mbolt Section, Township, Range: ____ Local relief (concave, convex, none): _____(6)(2) Slope (%): tat W -115.763724. tong N 35.413238 Datum: NAD 8 Subregion (LRR): ____ NWI classification: J/A ZONEII Soil Map Unit Name: NI-A (If no, explain in Remarks.) Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ significantly disturbed? Are "Normal Circumstances" present? Yes (If needed, explain any answers in Remarks.) Are Vegetation No , Soil _, or Hydrology naturally problematic? SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes No Is the Sampled Area Yes No Hydric Soil Present? Yes No within a Wetland? No Yes ____ Wetland Hydrology Present? W-F NWH 0 Photos: 8914-5 Remarks: h - 3" g915-tJ 5-41 VEGETATION Dominance Test worksheet: Absolute Dominant Indicator % Cover Species? Status Tree Stratum (Use scientific names.) Number of Dominant Species That Are OBL, FACW, or FAC: (A)1. 2. Total Number of Dominant Species Across All Strata: (B) 3 Percent of Dominant Species Total Cover: _____ That Are OBL, FACW, or FAC: (A/B) Sapling/Shrub Stratum Prevalence Index worksheet: the Allen 1. Spharalcoa: Ambigua Total % Cover of: Multiply by: bpe NL Hymenoclea cintsola 2. _____ x 1 = _____ OBL species з. FACW species _____ x 2 = _____ 4. FAC species x 3 = ____ 5 x 4 = Total Cover: 4 FACU species x 5 = 7.30 UPL species Herb Stratum det N 410 N 230 (A) Column Totals: _ (B) Max Brut Pa UP-L-NI N 16 tarias 2. Prevalence Index = B/A = _ Ψ UT 35 mans з. -Hydrophytic Vegetation Indicators: tofter al IJ +e (the Browns (FACUT _ Dominance Test is >50% 5 ( FACUL Prevalence Index is ≤3.0¹ MA ST Sever 8 6. Morphological Adaptations¹ (Provide supporting 7. data in Remarks or on a separate sheet) R Problematic Hydrophytic Vegetation¹ (Explain) Total Cover: 42 Woody Vine Stratum ¹Indicators of hydric soil and wetland hydrology must 1._____ be present. 2. Hydrophytic Total Cover: _ 01 Vegetation 58 Yes No N Present? % Cover of Biotic Crust _____ % Bare Ground in Herb Stratum Remarks: F-I.1-106

SOIL

Sampling Point: (10-6

he absence of indicators.)
Texture Remarks
j to vell sand
=Root Channel, M=Matrix.
Indicators for Problematic Hydric Soils ³ :
1 cm Muck (A9) (LRR C) 2 cm Muck (A10) (LRR B)
2 cm Mdck (AT0) (ERR B) Reduced Vertic (F18)
Red Parent Material (TF2)
Other (Explain in Remarks)
and the standard states and the set
³ Indicators of hydrophytic vegetation and wetland hydrology must be present.
weitand hydrology most de present.
/
Hydric Soil Present? Yes No
Secondary Indicators (2 or more required)
Water Marks (B1) (Riverine)
Sediment Deposits (B2) (Riverine)
Drift Deposits (B3) (Riverine)
Dralnage Patterns (B10)
Dry-Season Water Table (C2)
(C3) Thin Muck Surface (C7)
Crayfish Burrows (C8)
<ul> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Shallow Aquitard (D3)</li> </ul>
FAC-Neutral Test (D5)
) · · · · · · · · · · · · · · · · · · ·
nd Hydrology Present? Yes No
a Hydrology Present i Tes No
available:
-

Project/Site: DFDX		City/County: 5000	Baunardrus Sampling Date: 3/16/05
plicant/Owner: Circle Bint			State: <u>C.k.</u> Sampling Point: <u>61-</u> 7
Investigator(s): J. Halson, T. L.			
t and form (hillslope, ferrace, etc.); Valley	FION	Local relief (concave,	convex, none): <u>Chaus</u> Slope (%): 14
Subregion (LRR): D	Totic W	-115,7401061	-Leng: N 35. 421254 Datum: NAP 83
Soll Map Unit Name: N/A			NWI classification: $N/A$ ZANE/
Are climatic / hydrologic conditions on the site		ř	
Are Vegetation No., Soil , or Hydro			"Normal Circumstances" present? Yes No
Are Vegetation <u>NO</u> , solf, or Hydro			eeded, explain any answers in Remarks.)
			locations, transects, important features, etc.
Hydric Soil Present? Ye	85 No 95 No 95 No	, is the Sampled within a Wetla OHUM W - H -	/
VEGETATION	<u> </u>		2.1
Tree Stratum (Use scientific names.) 1 2	······	<u>Species7</u> <u>Status</u>	Dominance Test worksheet:         Number of Dominant Species         That Are OBL, FACW, or FAC:         Total Number of Dominant         Species Across All Strata:
	·····		Percent of Dominant Species (1
Herb Stratum 1. <u>Circlian</u> <u>Circutavian</u> 2. <u>Browns</u> <u>Fectoram</u> 3. <u>Salsola</u> <u>Finans</u> 4. <u>(= 5.</u> <u>UKali</u>	Total Cover:       2         Z       2         Total Cover:       4	Y HE Y HE N HE N UPL N UPL (FACU)	That Are OBL, FACW, or FAC: (A/B)Prevalence Index worksheet: $_$ Total % Cover of: $_$ OBL species $_$ FACW species $_$ FACW species $_$ FAC species $_$ FACU species $_$ Column Totals: $[]$ (A) $[]$ (A/B)
$5.  or  =  b_{1}  pestive r$	/		Prevalence Index is ≤3.0 ¹
8 8 Woody Vine Stratum	Total Cover:		Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)     Problematic Hydrophytic Vegetation ¹ (Explain)
1			¹ Indicators of hydric soil and wetland hydrology must
2			be present.
Bare Ground in Herb Stratum <u>13</u>	Total Cover:	ust 05	Hydrophytic Vegetation Present? Yes No
Kemarks:		· · · · · · · · · · · · · · · · · · ·	1
		F-I.1-108	

SOIL	
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Sampling Point: <u>(81-7</u> of indicators.)

Depth <u>Matrix</u>	Redox Features Color (moist) % Type ¹ Lo	nc ² Texture Remarks
(inches) Color (moist) %		- this Sand
16 10 YR 4/2		gravel sand
Type: C=Concentration, D=Depletion, RM=R	Induned Matrix ² Location: PL=Pore Lin	ning, RC=Root Channel, M=Matrix.
Type: C=Concentration, D=Depletion, RM=R	Requires otherwise noted.)	Indicators for Problematic Hydric Soils ¹ :
Type: C=Concentration, D=Depletion, the re- tydric Soil Indicators: (Applicable to all Lf	RRS, diffess official (SE)	1 cm Muck (A9) (LRR C)
Histosol (A1)	Sandy Redox (S5)	2 cm Muck (A10) (LRR B)
Histic Epipedon (A2)	Stripped Matrix (S6)	Reduced Vertic (F1B)
Black Histic (A3)	Loamy Mucky Mineral (F1)	Red Parent Material (TF2)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2) Depleted Matrix (F3)	Other (Explain in Remarks)
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3) Redox Dark Surface (F6)	· · ·
1 cm Muck (A9) (LRR D)	Redox Dark Surface (F0) Depleted Dark Surface (F7)	
Depleted Below Dark Surface (A11)	Depleted Dark Suitable (F7) Redox Depressions (F8)	
Thick Dark Surface (A12)	Recox Deplessions (F9)	³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)		wetland hydrology must be present.
Sandy Gleyed Matrix (S4)		
Restrictive Layer (if present):		
Туре:		Hydric Soil Present? Yes No
Depth (Inches):		
Remarks:		
YDROLOGY		Secondary Indicators (2 or more required)
Wetland Hydrology Indicators:		Secondary Indicators (2 or more required) Water Marks (B1) (Riverine)
Wetland Hydrology Indicators:	ient)	Water Marks (B1) (Riverine)
Wetland Hydrology Indicators: Primary Indicators (any one indicator is suffici	Salt Crust (B11)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine)
Wetland Hydrology Indicators: Primary Indicators (any one indicator is suffici Surface Water (A1)	Salt Crust (B11) Biotic Crust (B12)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine)
Wetland Hydrology Indicators: Primary Indicators (any one indicator is suffici Surface Water (A1) High Water Table (A2)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10)
Wetland Hydrology Indicators: <u>Primary Indicators (any one indicator is suffici</u> Surface Water (A1) High Water Table (A2) Saturation (A3)	<ul> <li>Salt Crust (B11)</li> <li>Biotic Crust (B12)</li> <li>Aquatic Invertebrates (B13)</li> <li>Hydrogen Sulfide Odor (C1)</li> </ul>	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2)
Wetland Hydrology Indicators: Primary Indicators (any one indicator is suffici Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine)	<ul> <li>Salt Crust (B11)</li> <li>Biotic Crust (B12)</li> <li>Aquatic Invertebrates (B13)</li> <li>Hydrogen Sulfide Odor (C1)</li> </ul>	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7)
Wetland Hydrology Indicators: Primary Indicators (any one indicator is suffici Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine)	Salt Crust (B11)     Biotic Crust (B12)     Aquatic Invertebrates (B13)     Hydrogen Sulfide Odor (C1)     Dxidized Rhizospheres along Livi     Presence of Reduced Iron (C4)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8)
Wetland Hydrology Indicators: Primary Indicators (any one indicator is suffici Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine)	Salt Crust (B11)     Biotic Crust (B12)     Aquatic Invertebrates (B13)     Hydrogen Sulfide Odor (C1)     Dxidized Rhizospheres along Livi     Presence of Reduced Iron (C4)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Solls (C6) Saturation Visible on Aerial Imagery (
Wetland Hydrology Indicators: Primary Indicators (any one indicator is suffici Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6)	Salt Crust (B11)     Biotic Crust (B12)     Aquatic Invertebrates (B13)     Hydrogen Sulfide Odor (C1)     Dxidized Rhizospheres along Livi     Presence of Reduced Iron (C4)     Recent Iron Reduction in Plowed	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) ing Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C8) Solls (C6) Saturation Visible on Aerial Imagery ( Shallow Aquitard (D3)
Wetland Hydrology Indicators: Primary Indicators (any one indicator is suffici Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) inundation Visible on Aerial Imagery (B7)	Salt Crust (B11)     Biotic Crust (B12)     Aquatic Invertebrates (B13)     Hydrogen Sulfide Odor (C1)     Dxidized Rhizospheres along Livi     Presence of Reduced Iron (C4)     Recent Iron Reduction in Plowed	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Solls (C6) Saturation Visible on Aerial Imagery (
Wetland Hydrology Indicators: Primary Indicators (any one indicator is suffici Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)	Salt Crust (B11)     Biotic Crust (B12)     Aquatic Invertebrates (B13)     Hydrogen Sulfide Odor (C1)     Dxidized Rhizospheres along Livi     Presence of Reduced Iron (C4)     Recent Iron Reduction in Plowed	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) ing Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C8) Solls (C6) Saturation Visible on Aerial Imagery ( Shallow Aquitard (D3)
Wetland Hydrology Indicators: Primary Indicators (any one indicator is suffici Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Eledd Observations:	<ul> <li>Salt Crust (B11)</li> <li>Blotic Crust (B12)</li> <li>Aquatic Invertebrates (B13)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Dxidized Rhizospheres along Livi</li> <li>Presence of Reduced Iron (C4)</li> <li>Recent Iron Reduction in Plowed</li> <li>Other (Explain in Remarks)</li> </ul>	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Solls (C6) Saturation Visible on Aerial Imagery ( Shallow Aquitard (D3) FAC-Neutral Test (D5)
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Wetland Hydrology Indicators:         Primary Indicators (any one indicator is suffici         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1) (Nonriverine)         Sediment Deposits (B2) (Nonriverine)         Drift Deposits (B3) (Nonriverine)         Surface Soil Cracks (B6)         inundation Visible on Aerial Imagery (B7)         Water-Stained Leaves (B9)         Field Observations:         Surface Water Present?       Yes N         Water Table Present?       Yes N	<ul> <li>Salt Crust (B11)</li> <li>Biotic Crust (B12)</li> <li>Aquatic Invertebrates (B13)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Dxidized Rhizospheres along Livi</li> <li>Presence of Reduced Iron (C4)</li> <li>Recent Iron Reduction in Plowed</li> <li>Other (Explain in Remarks)</li> </ul>	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Solls (C6) Shallow Aquitard (D3) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No
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Project/Site:	_ City/County:	a Remanderica sa	mpling Date: <u>3/16/08</u>
plicant/Owner: Circle Paint		State: Sa	mpling Point: <u>CI-8</u>
Investigator(s): THalson J. What let	Section, Township, Rai	nge:	
Landform (hillslope, terrace, etc.): Valley, Flod (	Local relief (concave,	convex, none): <u>cohca</u>	Slope (%):
Subregion (LRR):	J-115,743374	- LONG: 12 35.420346	Datum: <u>NAD &amp; 3</u>
Soit Map Unit Name: N/A			
Are climatic / hydrologic conditions on the site typical for this time of	year? Yes No	(If no, explain in Rema	arks.)
Are Vegetation No., Soil, or Hydrology significant		"Normal Circumstances" pres	
Are Vegetation <u>No</u> , soil <u>, or Hydrology</u> <u>naturally</u> naturally	-	eeded, explain any answers in	
SUMMARY OF FINDINGS – Attach site map showin		ocations, transects, in	nportant features, etc.
Hydrophytic Vegetation Present? Yes No	, — Is the Sampled	4.500	
Hydric Soil Present? Yes No V	within a Wetlan		No V
Wetland Hydrology Present? Yes <u>No V</u>			•
Remarks:			2109; 5-8906
		1-3"	N DTOF
		5-3:1	·
VEGETATION	1		· · · · · ·
Absolu	te Dominant Indicator er Species? Status	Dominance Test workshe	
Tree Stratum       (Use scientific names.)       % Cov         1.		Number of Dominant Speci That Are OBL, FACW, or F	
2		Total Number of Dominant	
3		Species Across All Strata:	<u> </u>
· · · · · · · · · · · · · · · · · · ·	· · `	Percent of Dominant Speci	es 🖌
Total Cover: _Ø	<u> </u>	That Are OBL, FACW, or F	
Sapling/Shrub Stratum		Prevalence Index worksh	eet:
· 2		Total % Cover of:	· · · · · · · · · · · · · · · · · · ·
3		OBL species	
4		FACW species	
5		FAC species	
Total Cover:	NL	FACU species	x5= <u>70</u>
1. Frodium cirutarium 5	1 upt	Column Totals: 14	(A) <u>7</u> <u></u> (B)
2. Brownes tectorum 2	N WELAK	· ·	F
3. Salsola tragus 2	- N UPL	Prevalence Index = E	
4 Aristica purpurpa 5	- I reget	Hydrophytic Vegetation In Dominance Test is >50	
5. <u>&gt; (S. Kali</u>	(FACU ⁺ (FACU ⁺	Prevalence Index is ≤3 Prevalence Index is ≤3	
6.0A= S. Pestifer/	<u>(raci</u> )	Morphological Adaptat	ions ¹ (Provide supporting
7.		data in Remarks or	on a separate sheet)
8		Problematic Hydrophyl	lic Vegetation' (Explain)
Woody Vine Stratum		indicators of hydric soil an	
1		be present.	o welland hydrology must
2	·	Hydrophytic	····· ,····
Total Cover:	- 1	Vegetation	
% Bare Ground in Herb Stratum% Cover of Biotic	: Crust	Present? Yes	<u>No V</u>
Remarks:			
	F-I.1-110		

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Profile Doce	ription: (Describe	to the depth	needed to document the	indicator or	r confirm	the absence	of indicate	ors.)		
	Matrix		D-J-v Facture							
Depth (inches)	Color (moist)	%	Color (moist) %	<u> </u>	Loc	Texture	<u> </u>	Remarks		•
16	10 YR 4/2		1			waster save				
1.0	D (R. 110									
				_ ;						
					······			<u> </u>		<del>_</del>
······································							,			
			educed Matrix. ² Locatio	on' Pi =Pore	Linina, R	C=Root Chan	nel, M=Mat	rix		
Type: C≕C	oncentration, D≍De	pletion, RM=R	RRs, unless otherwise no	oted.)		Indicators	for Proble	matic Hydric	Soils ³ :	
			Sandy Redox (S5)	·			viuck (A9) (l			
Histosol			Stripped Matrix (S6	)			Muck (A10)			
Histic Ep Black Hi	oipedon (A2) atic (A3)		Loamy Mucky Mine	ral (F1)			ed Vertic (F			
	en Sulfide (A4)		Loamy Gleyed Mate	rix (F2)			arent Mater (Explain in			
Stratified	Layers (A5) (LRR	C)	Depleted Matrix (F3	3)				NCHIGINS)		
1 cm Mu	ick (A9) (LRR D)		Redox Dark Surface	e (F6) Gog (57)						
	d Below Dark Surfa	ce (A11)	Depleted Dark Surf	ace (F7) s (F8)						
Thick Da	ark Surface (A12)		Vernal Pools (F9)	, (i O)				ylic vegetation		
	Aucky Mineral (S1) Bleyed Matrix (S4)			-		wetland	1 hydrology	must be prese	nt.	
Restrictive	Layer (if present):						. ·			1
Restrictive	Layer (if present):					Hydric Soi	l Present?	Yes	<u>    No                                </u>	V
Restrictive Type: Depth (in	Layer (if present):					Hydric Soi	l Present?	Yes	<u>    No</u>	V
Restrictive Type: Depth (in	Layer (if present):					Hydric Sol	l Present?	Yes	No	<u>√</u>
Restrictive Type: Depth (in Remarks:	Layer (if present): ches):									
Restrictive Type: Depth (in Remarks: YDROLO	Layer (if present): ches):					Seco	ondary Indic	ators (2 or mor	e required	
Restrictive Type: Depth (in Remarks: YDROLO Wetland Hy	GY	52				<u>Seco</u>	<u>indary Indic</u> Water Mark	<u>alors (2 or mor</u> s (B1) (Riverin	e required	
Restrictive Type: Depth (in Remarks: YDROLO Wetland Hy Primary Indi	GY GY Gology Indicators Cators (any one ind	52				<u>Seco</u>	<u>indary Indic</u> Water Mark Sediment D	<u>ators (2 or mor</u> s (B1) (Riverin eposits (B2) (R	e required na) Riverina)	
Restrictive Type: Depth (in Remarks: YDROLO Wetland Hy Primary Indi Surface	GY GY Grology Indicators cators (any one ind Water (A1)	52	ent) Salt Crust (B11) Biotic Crust (B12)			<u>Seco</u>	indary Indic Water Mark Sediment D Drift Deposi	<u>ators (2 or mor</u> s (B1) (Riverin eposits (B2) (R ts (B3) (Riveri	e required na) Riverina)	
Restrictive Type: Depth (in Remarks: YDROLO Wetland Hy Primary Indi Surface High Wa	GY drology Indicators cators (any one ind Water (A1) eter Table (A2)	52	ent) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebra	ates (B13)		<u>Seco</u> 	undary Indic Water Mark Sediment D Drift Deposi Drainage Pi	<u>ators (2 or mor</u> s (B1) (Riverin eposits (B2) (R ts (B3) (Riveri atterns (B10)	re required ne) Riverine) ne)	
Restrictive Type: Depth (in Remarks: YDROLO Wetland Hy Primary Indi Surface High Wa Saturati	Layer (if present): ches): GY drology indicators cators (any one ind Water (A1) ater Table (A2) on (A3)	: icator is suffici	ent) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebra Hydrogen Sulfide	ates (B13) Odor (C1)		<u>Seco</u>	ondary Indic Water Mark Sediment D Drift Deposi Drainage Pi Dry-Seasor	ators (2 or mor s (B1) (Riverin eposits (B2) (F ts (B3) (Riveri atterns (B10) a Water Table (	re required ne) Riverine) ne)	<u>v</u>
Restrictive Type: Depth (in Remarks: YDROLO Wetland Hy Primary Indi Surface High Wa Saturati Water M	Layer (if present): ches): GY drology Indicators cators (any one ind Water (A1) ater Table (A2) on (A3) Marks (B1) (Nonrive	s: icator is suffici	ent) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp	ates (B13) Odor (C1) pheres along l	Living Roc	<u>Seco</u> 	ondary Indic Water Mark Sediment D Drift Deposi Drainage P Dry-Seasor Thin Muck S	ators (2 or mor s (B1) (Riverin eposits (B2) (F ts (B3) (Riveri atterns (B10) s Water Table ( Surface (C7)	re required ne) Riverine) ne)	
Restrictive Type: Depth (in Remarks: YDROLO Wetland Hy Primary Indi Surface High Wa Saturati Water N Sedime	Layer (if present): ches): GY drology Indicators cators (any one ind Water (A1) eter Table (A2) on (A3) farks (B1) (Nonrive nt Deposits (B2) (N	s: icator is suffici arine) onriverine)	ent) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu	ates (B13) Odor (C1) heres along l uced Iron (C4	)	<u>Seco</u>       	andary Indio Water Mark Sediment D Drift Deposi Dry-Seasor Thin Muck S Crayfish Bu	ators (2 or mor s (B1) (Riverin eposits (B2) (R ts (B3) (Riveri atterns (B10) s Water Table ( Surface (C7) rrows (C8)	re required 18) Riverine) ne) (C2)	
Restrictive Type: Depth (in Remarks: YDROLO Wetland Hy Primary Indi Surface High Wa Saturati Saturati SedIme Drift De Surface	Layer (if present): ches):	s: icator is suffici orine) onriverine) erine)	ent) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu	ates (B13) Odor (C1) pheres along l uced Iron (C4 uction in Plow	)	<u>Seco</u>       	indary Indic Water Mark Sediment D Drift Deposi Drainage Pi Dry-Seasor Thin Muck S Crayfish Bu Saturation N	ators (2 or mor s (B1) (Riverin eposits (B2) (Riveri atterns (B10) h Water Table ( Surface (C7) irrows (C8) visible on Aeria	re required 18) Riverine) ne) (C2)	
Restrictive Type: Depth (in Remarks: YDROLO Wetland Hy Primary Indi Surface High Water M Saturati Water M Sedime Drift De Surface Inundati	Layer (if present): ches): GY drology indicators cators (any one ind Water (A1) ater Table (A2) on (A3) farks (B1) (Nonrive nt Deposits (B2) (N posits (B3) (Nonrive Soil Cracks (B6) ion Visible on Aeria	erine) onriverine) erine) erine)	ent) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Other (Explain in	ates (B13) Odor (C1) pheres along l uced Iron (C4 uction in Plow	)	<u>Seco</u>       	ondary India Water Mark Sediment D Drift Deposi Dry-Seasor Thin Muck S Crayfish Bu Saturation ¹ Shaliow Aq	ators (2 or mor s (B1) (Riverin eposits (B2) (R ts (B3) (Riveri atterns (B10) a Water Table ( Surface (C7) irrows (C8) visible on Aeria uitard (D3)	re required 18) Riverine) ne) (C2)	
Restrictive Type: Depth (in Remarks: YDROLO Wetland Hy Primary Indi Surface High Water M Saturati Water M Sedime Drift De Surface Inundati	Layer (if present): ches): GY drology Indicators cators (any one ind Water (A1) ater Table (A2) on (A3) Marks (B1) (Nonrive nt Deposits (B2) (Nonrive posits (B3) (Nonrive	erine) onriverine) erine) erine)	ent) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Other (Explain in	ates (B13) Odor (C1) pheres along l uced Iron (C4 uction in Plow	)	<u>Seco</u>       	ondary India Water Mark Sediment D Drift Deposi Dry-Seasor Thin Muck S Crayfish Bu Saturation ¹ Shaliow Aq	ators (2 or mor s (B1) (Riverin eposits (B2) (Riveri atterns (B10) h Water Table ( Surface (C7) irrows (C8) visible on Aeria	re required 18) Riverine) ne) (C2)	
Restrictive Type: Depth (in Remarks: YDROLO Wetland Hy Primary Indi Saturati Saturati Water M Sedime Drift De Surface Inundati Water-S	Layer (if present): ches): GY drology indicators cators (any one ind Water (A1) ater Table (A2) on (A3) Marks (B1) (Nonrive nt Deposits (B2) (N posits (B3) (Nonrive Soil Cracks (B6) ion Visible on Aeria Stained Leaves (B9) vations:	s: icator is suffle onriverine) erine) I Imagery (B7)	ent) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Other (Explain in	ates (B13) Odor (C1) oheres along l uced Iron (C4 uction in Plow Remarks)	) red Solis (	<u>Seco</u>       	ondary India Water Mark Sediment D Drift Deposi Dry-Seasor Thin Muck S Crayfish Bu Saturation ¹ Shaliow Aq	ators (2 or mor s (B1) (Riverin eposits (B2) (R ts (B3) (Riveri atterns (B10) a Water Table ( Surface (C7) irrows (C8) visible on Aeria uitard (D3)	re required 18) Riverine) ne) (C2)	
Restrictive Type: Depth (in Remarks: YDROLO Wetland Hy Primary Indi Surface High Wa Saturati Water M SedIme Drift De Surface Inundati Surface	Layer (if present): ches): GY drology Indicators cators (any one ind Water (A1) ater Table (A2) on (A3) Marks (B1) (Nonrive nt Deposits (B2) (N posits (B3) (Nonrive Soil Cracks (B6) ion Visible on Aeria Stained Leaves (B9 vations: ter Present?	s: icator is suffici onriverine) erine) I Imagery (B7) ) Yes N	ent) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Other (Explain in , Depth (inches):	ates (B13) Odor (C1) oheres along l uced Iron (C4 uction in Plow Remarks)	) red Solis (	<u>Seco</u>       	ondary India Water Mark Sediment D Drift Deposi Dry-Seasor Thin Muck S Crayfish Bu Saturation ¹ Shaliow Aq	ators (2 or mor s (B1) (Riverin eposits (B2) (R ts (B3) (Riveri atterns (B10) a Water Table ( Surface (C7) irrows (C8) visible on Aeria uitard (D3)	re required 18) Riverine) ne) (C2)	
Restrictive Type: Depth (in Remarks: YDROLO Wetland Hy Primary Indi Surface High Water M Saturati Water M Sedime Drift De Surface Inundati Water-S Field Obser Surface Water	Layer (if present): ches): GY drology Indicators cators (any one ind Water (A1) ater Table (A2) on (A3) farks (B1) (Nonrive nt Deposits (B2) (N posits (B3) (Nonrive Soil Cracks (B6) ion Visible on Aeria Stained Leaves (B9 vations: ter Present?	s: icator is suffici onriverine) erine) I Imagery (B7) ) Yes N Yes N	ent) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Other (Explain in Depth (inches):	ates (B13) Odor (C1) oheres along l uced Iron (C4 uction in Plow Remarks)	) red Solls (	<u>Seco</u>       	ndary India Water Mark Sediment D Drift Deposi Dry-Seasor Thin Muck S Crayfish Bu Saturation N Shaliow Aq FAC-Neutra	ators (2 or mor s (B1) (Riverin eposits (B2) (Riveri atterns (B10) a Water Table ( Surface (C7) irrows (C8) visible on Aeria uitard (D3) ai Test (D5)	e required he) Riverine) ne) (C2) al Imagery	
Restrictive Type: Depth (in Remarks: YDROLO Wetłand Hy Primary Indi Surface High Wa Saturati Saturati Saturati Saturati Surface Drift De Drift De Drift De Surface Inundati Surface Wa Water Table	Layer (if present): ches):	s: icator is suffici onriverine) erine) I Imagery (B7) ) Yes N Yes N	ent) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Other (Explain in , Depth (inches):	ates (B13) Odor (C1) oheres along l uced Iron (C4 uction in Plow Remarks)	) red Solls (	<u>Seco</u>       	ndary India Water Mark Sediment D Drift Deposi Dry-Seasor Thin Muck S Crayfish Bu Saturation N Shaliow Aq FAC-Neutra	ators (2 or mor s (B1) (Riverin eposits (B2) (R ts (B3) (Riveri atterns (B10) a Water Table ( Surface (C7) irrows (C8) visible on Aeria uitard (D3)	e required he) Riverine) ne) (C2) al Imagery	
Restrictive Type: Depth (in Remarks: YDROLO Wetland Hy Primary Indi Surface High Water M Saturati Water M Surface Inundati Water S Field Obser Surface Water Surface Water Table	Layer (if present): ches):	srine) onriverine) erine) erine) I Imagery (B7) ) Yes N Yes N Yes N	ent) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Other (Explain in Other (Explain in Depth (inches): Depth (inches):	ates (B13) Odor (C1) oheres along l uced Iron (C4 uction in Plow Remarks)	) red Solis (  	<u>Seco</u> 	ndary India Water Mark Sediment D Drift Deposi Dry-Seasor Thin Muck S Crayfish Bu Saturation N Shaliow Aq FAC-Neutra	ators (2 or mor s (B1) (Riverin eposits (B2) (Riveri atterns (B10) a Water Table ( Surface (C7) irrows (C8) visible on Aeria uitard (D3) ai Test (D5)	e required he) Riverine) ne) (C2) al Imagery	
Restrictive Type: Depth (in Remarks: YDROLO Wetland Hy Primary Indi Surface High Wa Saturati Water N SedIme Drift De Surface Inundati Water-S Field Obser Surface Wa Water Table Saturation F (includes ca Describe Re	Layer (if present): ches):	srine) onriverine) erine) erine) I Imagery (B7) ) Yes N Yes N Yes N	ent) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Other (Explain in Depth (inches):	ates (B13) Odor (C1) oheres along l uced Iron (C4 uction in Plow Remarks)	) red Solis (  	<u>Seco</u> 	ndary India Water Mark Sediment D Drift Deposi Dry-Seasor Thin Muck S Crayfish Bu Saturation N Shaliow Aq FAC-Neutra	ators (2 or mor s (B1) (Riverin eposits (B2) (Riveri atterns (B10) a Water Table ( Surface (C7) irrows (C8) visible on Aeria uitard (D3) ai Test (D5)	e required he) Riverine) ne) (C2) al Imagery	
Restrictive Type: Depth (in Remarks: YDROLO Wetland Hy Primary Indi Surface High Wa Saturati Water N SedIme Drift De Surface Inundati Water-S Field Obser Surface Wa Water Table Saturation F (includes ca Describe Re	Layer (if present): ches):	srine) onriverine) erine) erine) I Imagery (B7) ) Yes N Yes N Yes N	ent) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Other (Explain in Other (Explain in Depth (inches): Depth (inches):	ates (B13) Odor (C1) oheres along l uced Iron (C4 uction in Plow Remarks)	) red Solis (  	<u>Seco</u> 	ndary India Water Mark Sediment D Drift Deposi Dry-Seasor Thin Muck S Crayfish Bu Saturation N Shaliow Aq FAC-Neutra	ators (2 or mor s (B1) (Riverin eposits (B2) (Riveri atterns (B10) a Water Table ( Surface (C7) irrows (C8) visible on Aeria uitard (D3) ai Test (D5)	e required he) Riverine) ne) (C2) al Imagery	
Restrictive Type: Depth (in Remarks: YDROLO Wetland Hy Primary Indi Surface High Water M Saturati Water M SedIme Drift De Surface Inundati Water-S Field Obser Surface Water Table Saturation F	Layer (if present): ches):	srine) onriverine) erine) erine) I Imagery (B7) ) Yes N Yes N Yes N	ent) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Other (Explain in Other (Explain in Depth (inches): Depth (inches):	ates (B13) Odor (C1) oheres along l uced Iron (C4 uction in Plow Remarks)	) red Solis (  	<u>Seco</u> 	ndary India Water Mark Sediment D Drift Deposi Dry-Seasor Thin Muck S Crayfish Bu Saturation N Shaliow Aq FAC-Neutra	ators (2 or mor s (B1) (Riverin eposits (B2) (Riveri atterns (B10) a Water Table ( Surface (C7) irrows (C8) visible on Aeria uitard (D3) ai Test (D5)	e required he) Riverine) ne) (C2) al Imagery	

. . .

YEGETATION         Image Stratum       (Use scientific names.)       Absolute % Cover       Dominant indicator % Cover       Dominant Species Status       Mumber of Dominant Species Mumber of Dominant Species       (A         2	Project/Site: <u>V5X</u>				
Landom (hitsipe, tarace, ab.) <u>(a) (b) FibM</u> toget intercense, convex, none). <u>(CPC2444</u> Stope (N) 1 Subregion (R63) <u>C</u>					
Subregion (LRR): D       Tat U -115.74 T732       these, U 3.5.416 \$\$\$\$					
Soil Map Unit Name JIA	Landform (hillslope, terrace, etc.): 1/2/164 Fib	b/ Local relie	f (concave, co	nvex, none): <u>Conce</u>	Slope (%): 1%
Ave chmatic / hydpologic conditions on the site typical for this time of year? Yea       No       (If no, explain in Remarks.)         Are Vegetation       No       Statt       Are Vegetation       No       (If no, explain in Remarks.)         Are Vegetation       No       Statt       Are Vegetation       No       (If no, explain in Remarks.)         Are Vegetation       No       Statt       Are Vegetation       No       (If no, explain in Remarks.)         SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, it       Is the Sampled Area       No       No         Hydrophytic Vegetation Present?       Yes       No       Ves       No       No       No         Hydrophytic Vegetation Present?       Yes       No       Ves       No       No       No         Wetland Hydrology Present?       Yes       No       Ves       No       No <td>Subregion (LRR): D</td> <td>-===</td> <td>17732 1</td> <td>Long: N 35, 41</td> <td>8978 Datum: AAD 8</td>	Subregion (LRR): D	-===	17732 1	Long: N 35, 41	8978 Datum: AAD 8
Are climatic / hydrologic conditions on the site typical for this time af year? Yes	Soil Map Unit Name: 1/14				ication: MA ZONE
Are Vegetation NoAre Vegetation AnSolAre tryptologyanaurally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, or Hydrophylic Vegetation Present? YesNo	Are climatic / hydrologic conditions on the site typic	al for this time of year? Yes	_/_ No	(If no, explain in	Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, of Hydrophytic Vegetation Present?       Yes       No       Yes       Yes       No       Yes       Yes <td></td> <td></td> <td></td> <td></td> <td></td>					
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, or Hydrophytic Vegetation Present?       Yes       No       Yes       Yes       No       Yes       Yes <td>Are Vegetation Nt., Soil, or Hydrology</td> <td>naturally problematic?</td> <td>(If need</td> <td>ied, explain any answ</td> <td>ers in Remarks.)</td>	Are Vegetation Nt., Soil, or Hydrology	naturally problematic?	(If need	ied, explain any answ	ers in Remarks.)
Hydric Soil Present?       Yes       No       Yes       No       Yes       No         Remarks:       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0	SUMMARY OF FINDINGS – Attach site	map showing samplin	g point loc	ations, transect	s, important features, etc
Hydric Soll Present?       Yes       No       Wetland Hydrology Present?       Yes       No         Remarks:       0HUM	Hydrophytic Vegetation Present? Yes		e Sampled A	rea	
Wetering hydrology Present?       Tes       O       Image: Stratum       Image	Hydric Soil Present? Yes	No V	in a Wetland'	? Yes	No
ZEGETATION       Absolute       Dominant Indicator         Tree Stratum       (Use scientific names.)       % Cover       Species2       Status         1					
Iree Stratum       (Use scientific names.)       Absolute       Dominant indicator       Dominance Test worksheet:       Multiple         1.	Remarks:	OHO	WM W-1 4-3' 5-3:1		(100 105: N - 8909 5 - 8909
Tree Stratum       (Use scientific names.)       % Cover       Species2       Status       Number of Dominant Species       (A         1.	/EGETATION		<u>1</u>		·
1.					· A
Z			1 1		
a					,
Total Cover:       Percent of Dominant Species       (A         Sapting/Shrub Stratum       Prevalence Index worksheet:       (A         1       Prevalence Index worksheet:       (A         2       Sapting/Shrub Stratum       Prevalence Index worksheet:       (A         3       Sapting/Shrub Stratum       Prevalence Index worksheet:       (A         4       Sapting/Shrub Stratum       Prevalence Index worksheet:       (A         5       Total Cover:       Ø       Prevalence Index worksheet:       (A         1.       Arrishida podistorfa       7       Y       Pfff         1.       Arrishida podistorfa       7       Y       Pfff         2.       Stratum       X5       Sapting/Shrub Stratum       (A)       Sapting/Shrub Stratum         1.       Arrishida podistorfa       7       Y       Pfff       Column Totals:       II       (A)       Sapting/Shrub Stratum         2.       Stratum       Z       Numethal       Numethal       Sapting/Shrub Stratum       Sapting/Shrub Stratum       Sapting/Shrub Stratum       Santal       Santal       Satting/Shrub Stratum       Santal       Satting/Shrub Stratum       Satting/Shrub Stratum       Santal       Satting/Shrub Stratum       Satting/Shrub Stratum       Sat			۲ <u>۱</u>		
Saplino/Shrub Stratum       Total Cover:       Image: marks of the separate sheet       That Are OBL, FACW, or FAC:       Image: marks of the separate sheet         1.       Image: marks:       Total Cover:       Image: marks:       That Are OBL, FACW, or FAC:       Image: marks:       Image: marks:				Percent of Dominani S	Species
1.		Il Cover:			
2.			F	Prevalence Index wo	rksheet:
3.				Total % Cover of:	Multiply by:
A.				DBL species	× 1 =
5.       Total Cover:       Image: Constraint of the stratum       Image: Co				ACW species	x 2 =
Total Cover:        FACU species	5		F		
1. Aristida perimenta       7       4       4       Column Totals:       11       (A)       55       (B)         2. Erodian (La tavium)       2       N       4       Prevalence Index = B/A =       5         3. Aww.sincle1a teccellate       2       N       4       Prevalence Index = B/A =       5         4.       3. Aww.sincle1a teccellate       2       N       44       Prevalence Index = B/A =       5         5.       3.       All       All       All       Hydrophytic Vegetation Indicators:          6.	Tota	l Cover:	1	11	
Image: Stratum       Image		7 Y		•	
Awn Gin A - in A - i		$\frac{1}{2}$			(A) <u>55</u> (B)
All       Hydrophytic Vegetation Indicators:			UPS	Prevalence Inde	x = B/A =
			- ALF	lydrophytic Vegetat	ion Indicators:
Image: Second Stratum       Image: Second St	5				
data in Remarks or on a separate sheet)					
Bare Ground in Herb Stratum       Image: Stratum	7		] -	Morphological Ad data in Remark	aptations' (Provide supporting ks or on a separate speet)
Total Cover:       1         Moody Vine Stratum       1         Image: Stratum       Image: Stratum         Image: Str	)				· ,
Image: Second		Cover:			
Total Cover:     Depresent.       Bare Ground in Herb Stratum     89       % Cover of Biotic Crust     Present?       Yes     No					bil and wetland hydrology must
Total Cover:			b	e present.	
Bare Ground in Herb Stratum % Cover of Biotic Crust Present? Yes No		l Cover: 🧭 🔄			1
Jmarks:	Bare Ground in Herb Stratum 89 %	Cover of Biotic Crust $\mathscr{A}$			BS No
	مى يەرىيە بېرىغان يېرىغان يېرىغ				
· F-I.1-112		<b></b>			

				61-92
				Sampling Point:
SOIL				
Profile Desc	cription: (Describe to the depth r	needed to document the indicator or c	Ontirm	
Depth	Matrix	Redox Features Color (moist) % Type1 L	oc ²	Texture Remarks
<u>(inches)</u>				arouel sub
16	10 4R 4/2		·	electore i const
·				
¹ Type: C=C	oncentration, D=Depletion, RM=Re		ning, R(	C=Root Channel, M=Matrix.
Hydric Soll	Indicators: (Applicable to all LR.	Rs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
Histosol		Sandy Redox (S5)		1 cm Muck (A9) (LRR C) 2 cm Muck (A10) (LRR B)
	pipedon (A2)	Stripped Matrix (S6)		Reduced Vertic (F18)
Black H		Loamy Mucky Mineral (F1)		Red Parent Material (TF2)
Hydroge	en Sulfide (A4)	Depleted Matrix (F3)		Other (Explain in Remarks)
Stratifie	d Layers (A5) (LRR C) Jok (A9) (LRR D)	Redox Dark Surface (F6)		
1 Cm /vit Deplete	d Below Dark Surface (A11)	Depleted Dark Surface (F7)		
	ark Surface (A12)	Redox Depressions (F8)		3. If a fear of build a build upget of and
	Aucky Mineral (S1)	Vernal Pools (F9)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present.
	Sieyed Matrix (S4)			Weband Hydrology mast be prosent.
Restrictive	Layer (if present):			7
Туре:		_		Hydric Soil Present? Yes No
Depth (in	ches):			
Remarks:				•
			. <u></u>	
HYDROLO	GY			
	drology Indicators:			Secondary Indicators (2 or more required)
	cators (any one indicator is sufficie	nt)		Water Marks (B1) (Riverine)
	Water (A1)	Sait Crust (B11)		Sediment Deposits (B2) (Riverine)
	ater Table (A2)	Biotic Crust (B12)		Drift Deposits (B3) (Riverine)
Saturati		Aquatic Invertebrates (B13)		Drainage Patterns (B10)
	(arks (B1) (Nonriverine)	Hydrogen Sulfide Odor (C1)	_	Dry-Season Water Table (C2)
Sedime	nt Deposits (B2) (Nonriverine)	Oxidized Rhizospheres along Livi	ing Roo	Crayfish Burrows (C8)
	posits (B3) ( <b>Nonriverine</b> )	Presence of Reduced Iron (C4)		
Surface	Soli Cracks (B6)	Recent Iron Reduction in Plowed	Solis (C	Shallow Aquitard (D3)
Inundati	ion Visible on Aerial Imagery (B7)	Other (Explain in Remarks)		FAC-Neutral Test (D5)
	italined Leaves (89)		1	
Field Obser		b ut (becker)		1
Surface Wat		/Depth (inches):		/
Water Table		Depth (inches):	Moth	and Hydrology Present? Yes No
Saturation P		Depth (inches):	1	
(Includes ca	piliary fringe) corded Data (stream gauge, monit	oring well, aerial photos, previous Inspe	ctions),	if available:
Descape inte				
Remarks:				
rteingiks.				

M I: Discolet/confined

OHWM

F-I.1-113

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WETLAND DETER	MINATION (	DATA FORM	– Arid West Region
Project/Site: DEX	Cib/(	County Sauce	Bunnardina Sampling Date: 3/16/09
pplicant/Owner: <u>Ciscle Point</u>	0ily/c	200 mg . <u>~~ Cêndri</u>	State: CA Sampling Point: ()-10
Investigator(s): J. Holson, J. Vinlas It	Secti	on. Township, Ra	5
Landform (hillslope, terrace, etc.): Vinita Floor	ioca	t relief (concave.	convex. none): (CV)(a.v.L Slope (%); 2%
Subregion (LRR): D	+=+1)-11E	JSD5#9	1785 N 35,417840 Datum: NAD 83
			NWI classification: UHA ZONE //
Soil Map Unit Name: <u>NHA</u> Are climatic / hydrologic conditions on the site typical for this			, <b>.</b>
Are Vegetation No. Soil , or Hydrology			"Normal Circumstances" present? Yes No
Are Vegetation <u>NO</u> , Soll, or Hydrology na			eeded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map s	howing sam	ipling point l	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No		is the Sampled	Area
Hydric Soil Present? Yes No		within a Wetlar	nd? Yes No V
Wetland Hydrology Present? Yes No			
Remarks:		OHWM IN	-1' [Photos: N - 89/1
			S-8910
			)- ).
VEGETATION			· · ·
	Absolute Dom		Dominance Test worksheet:
	<u>% Cover Spe</u>		Number of Dominant Species (A)
1			1
2			Total Number of Dominant 3 Species Across All Strata: (B)
			Percent of Dominant Species
Total Cover: _	<u> </u>		That Are OBL, FACW, or FAC: (A/B)
<u>Sapling/Shrub Stratum</u> 1. <u>Flicamerica</u> lariestella	l v	an UPC	Prevalence Index worksheet:
1. FICAMERIA VALLETARIA			Total % Cover of: Multiply by:
3			OBL species x 1 =
4			FACW species x 2 =
5,			FAC species x 3 =
Total Cover: _		NL	FACU species $x4 =$ UPL species $24$ $x5 = 120$
1. Fradian interviews	12 1	UPE	UPL species $\frac{.24}{.24}$ x 5 = $\frac{.126}{.120}$ (B)
2: - Calsola tracing	3 1	) JPE	
3. Bromus tector um	<u>4</u> Y	U-Art	Prevalence Index = $B/A = _\S$
1 (= S.Kali		(EACUT)	Hydrophytic Vegetation Indicators:
5. Jor = S. perstiter	·	(FACU)	Dominance Test is >50%
6	<u> </u>		Prevalence index is ≤3.0 ¹ Morphological Adaptations ¹ (Provide supporting
7			data in Remarks or on a separate sheet)
8	22		Problematic Hydrophytic Vegetation ¹ (Explain)
Total Cover: Woody Vine Stratum			· · · · ·
1			¹ Indicators of hydric soil and wetland hydrology must be present.
2			
Total Cover: _	<u> </u>		Hydrophytic Vegetation
Sare Ground in Herb Stratum 77 % Cover of	f Biotic Crust	đ	Present? Yes No

.∢emarks:

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's Bare Ground in Herb Stratum _ 77

% Cover of Biotic Crust

Add Mont Marrian 44 4 0000

JUL	S	0	۱L
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Sampling Poin	t: ( <i>d</i> -1()	
		-

OIL Profile Description: (Describe to the depth needed to document the indicator of Redox Features	
Depth Matrix Color (moist) % Type1 _	Loc ² Texture Remarks
$\frac{(\text{inches})}{16} = \frac{\text{Color (moist)}}{16} = \frac{\%}{16} = \frac{16}{16} $	ainvel sand
$\frac{16}{16} \frac{10}{10} \frac{17}{12} \frac{1}{12} \frac{1}{12$	
	Uping RC=Root Channel, M=Matrix,
Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ² Location: PL=Pore	Indicators for Problematic Hydric Soils ³ :
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	1 cm Muck (A9) (LRR C)
Histosol (A1) Sandy Redox (S5)	2 cm Muck (A10) (LRR B)
Histosof (A1) Histic Epipedon (A2) Stripped Matrix (S6)	Reduced Vertic (F18)
Black Histic (A3)	Red Parent Material (TF2)
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
Stratified Layers (A5) (LRR C) Depleted Matrix (F3)	
Strained Eavers (7.6) (LRR D) Redox Dark Surface (F6) Depleted Dark Surface (F7)	
	³ Indicators of hydrophytic vegetation and
	wetland hydrology must be present.
Sandy Gleyed Matrix (S4)	
Restrictive Layer (if present):	
Туре:	Hydric Soil Present7 Yes No
Depth (inches):	
Deptil (inclies);	
Remarks:	Nyulic Solit Teschiri 199
Remarks:	Nyulic Solit result in 199
Remarks: YDROLOGY	
Remarks: YDROLOGY Wetland Hydrology Indicators:	Secondary indicators (2 or more required)
Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient)	Secondary indicators (2 or more required) Water Marks (B1) (Riverine)
Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient) Surface Water (A1) Salt Crust (B11)	Secondary indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine)
Remarks:         IYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (any one indicator is sufficient)	Secondary indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine)
Remarks:         IYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (any one indicator is sufficient)	Secondary indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Pattems (B10)
Remarks:         IYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (any one indicator is sufficient)	Secondary indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Pattems (B10) Dry-Season Water Table (C2)
Remarks:         IYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (any one indicator is sufficient)	Secondary indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Pattems (B10) Dry-Season Water Table (C2) Living Roots (C3) Thin Muck Surface (C7)
Remarks:         IYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (any one indicator is sufficient)	Secondary indicators (2 or more required)
Remarks:         IYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (any one indicator is sufficient)	Secondary indicators (2 or more required)
Remarks:         IYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (any one indicator is sufficient)	Secondary indicators (2 or more required)
Remarks:         IYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (any one indicator is sufficient)	Secondary indicators (2 or more required)
Remarks:         IYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (any one indicator is sufficient)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Biotic Crust (B12)         Saturation (A3)       Aquatic Invertebrates (B13)         Water Marks (B1) (Nonriverine)       Dividized Rhizospheres along         Drift Deposits (B2) (Nonriverine)       Oxidized Rhizospheres along         Drift Deposits (B3) (Nonriverine)       Presence of Reduced Iron (C4)         Surface Soil Cracks (B6)       Recent Iron Reduction in Plow.         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)         Water-Stalned Leaves (B9)       Mater Stalned Leaves (B9)	Secondary indicators (2 or more required)
Remarks:         IYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (any one indicator is sufficient)	Secondary indicators (2 or more required)
Remarks:         YDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (any one indicator is sufficient)	Secondary indicators (2 or more required)
Remarks:         IYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (any one indicator is sufficient)	Secondary indicators (2 or more required)
Remarks:         IYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (any one indicator is sufficient)	Secondary indicators (2 or more required)
Remarks:         IYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (any one indicator is sufficient)	Secondary indicators (2 or more required)
Remarks:         YDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (any one indicator is sufficient)	Secondary indicators (2 or more required)
Remarks:         YDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (any one indicator is sufficient)	Secondary indicators (2 or more required)
Remarks:         IYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (any one indicator is sufficient)	Secondary indicators (2 or more required)
Remarks:         YDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (any one indicator is sufficient)	Secondary indicators (2 or more required)
Remarks:         YDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (any one indicator is sufficient)	Secondary indicators (2 or more required)

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WETLAND DETERMINAT		
Project/Site:	City/County: <u></u>	Burnardino Sampling Date: 3/16/08
North Prist		State: CA Sampling Point: 6[-1]
Investigation J Holson J Windhalt	_ Section, Township, Ra	inge:
Landform (hillslope terrace etc.) Ve INV FLOW	Local relief (concave,	convex, none): <u>rovra WC</u> Slope (%): <u>176</u>
Subregion (LRR): D	-115,753654	_ Tong: N 35.416156 Datum: NAV (S
Soil Map Unit Name: HHA		NWI classification: 12/12
Are climatic / hydrologic conditions on the site typical for this time of y	vear? Yes No _	(If no, explain in Remarks.)
Are Vegetation No., Soil, or Hydrology significant	<i>,</i>	"Normal Circumstances" present? Yes <u>V</u> No
Are Vegetation No, Soil , or Hydrology naturally p		eeded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showin	g sampling point I	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	- Is the Sampleo	i Area
Hydric Soil Present? Yes No _//	- within a Wetla	
Wetland Hydrology Present? Yes No	OHWM IN	1-41  Photos: 3912-N
Remarks:		x - 3'' gais - s
		5-4!
VEGETATION		
Absolute		Dominance Test worksheet:
Tree Stratum (Use scientific names.) <u>% Cove</u>	er Specles? Status	Number of Dominant Species
1		
2		Total Number of Dominant Species Across All Strata:(B)
3		Percent of Dominant Species
Total Cover:	_	That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum	H WPE	Prevalence Index worksheet:
1. Hymengelen Salson		Total % Cover of: Multiply by:
3.		OBL species x 1 =
4		FACW species x 2 =
5		FAC species         x 3 =           FACU species         x 4 =
Total Cover: <u>2</u>		$\begin{array}{c} PACO \text{ species} \\ \hline \\ UPL \text{ species} \\ \hline \\ \hline \\ 17 \\ x5 = 60 \\ \hline \\ 60 \\ \hline \\ \end{array}$
Herb Stratum 1. Erodium <u>6</u>	Y OPE	Column Totals: $12$ (A) $60$ (B)
2. Brownius tertarum 4	Y HPE	5
3	NL	Prevalence Index = B/A = <u>5</u> Hydrophytic Vegetation Indicators:
4		Dominance Test is >50%
5		Prevalence Index is $\leq 3.0^{1}$
6		Morphological Adaptations ¹ (Provide supporting
7		data in Remarks or on a separate sheet)
8 Total Cover:()		Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum		¹ Indicators of hydric soil and wetland hydrology must
1		be present.
2		Hydrophytic
		Vegetation Present? Yes No
% Bare Ground in Herb Stratum % Cover of Blotic		
Remarks:		
	F-I.1-116	

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SOIL				Sampling Point:
Profile Description: (Describe to the dep		or confir	m the absence of inc	licators.)
Depth <u>Matrix</u> (inches) Color (moist) %	Redox Features Color (moist) % Type ¹		Texture	Remarks
			gravelle sent	. Homaina
	· · · · · · · · · · · · · · · · · · ·		<u>and and search</u>	······································
	· · · · · · · · · · · · · · · · · · ·			
				·····
-				
		-		
			······	·····
¹ Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators: (Applicable to all		e Lining, F	RC=Root Channel, M=	-Matrix. oblematic Hydric Solls ³ :
	Sandy Redox (S5)		1 cm Muck (A	r -
Histosol (A1) Histic Epipedon (A2)	Stripped Matrix (S6)		2 cm Muck (/	
Black Histic (A3)	Loamy Mucky Mineral (F1)		Reduced Ver	
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)		Red Parent M	Aaterial (TF2)
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3)		Other (Explai	n in Remarks)
1 cm Muck (A9) (LRR D)	Redox Dark Surface (F6)			
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7) Redox Depressions (F8)			
Thick Dark Surface (A12) Sandy Mucky Mineral (S1)	Vernal Pools (F9)		³ indicators of hyd	rophytic vegetation and
Sandy Gleyed Matrix (S4)				ogy must be present.
Restrictive Layer (if present):				
Туре:				/
Depth (inches):			Hydric Soil Prese	nt? Yes <u>No </u>
Depth (inches):Remarks:			Hydric Soil Prese	nt? Yes <u>No</u>
Depth (inches): Remarks: /DROLOGY				· · ·
Depth (inches): Remarks: YDROLOGY Vetland Hydrology Indicators:			Secondary Ir	nt? Yes No dicators (2 or more required) arks (B1) (Riverine)
Depth (inches): Remarks: YDROLOGY Vetland Hydrology Indicators: rimary Indicators (any one indicator is suffic	zient)		<u>Secondary Ir</u> Water M	idicators (2 or more required)
Depth (inches): Remarks: YDROLOGY Vetland Hydrology Indicators:			<u>Secondary Ir</u> Water M Seoimer	idicators (2 or more required) arks (B1) (Riverine)
Depth (inches): Remarks: <b>/DROLOGY</b> Vetland Hydrology Indicators: rimary Indicators (any one indicator is suffic Surface Water (A1)			<u>Secondary ir</u> Water M Sedimer Drift Dep	idicators (2 or more required) arks (B1) (Riverine) it Deposits (B2) (Riverine)
Depth (inches):	dent) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)		<u>Secondary ir</u> <u>Water M</u> <u>Sedimer</u> Drift Dep <u>Drainage</u> Dry-Sea	idicators (2 or more required) arks (B1) (Riverine) it Deposits (B2) (Riverine) posits (B3) (Riverine) e Patterns (B10) son Water Table (C2)
Depth (inches): Remarks: YDROLOGY Vetland Hydrology Indicators: Surface Water (A1) High Water Table (A2) Saturation (A3)	Sent) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along		<u>Secondary ir</u> <u> </u>	dicators (2 or more required) arks (B1) (Riverine) it Deposits (B2) (Riverine) posits (B3) (Riverine) e Patterns (B10) son Water Table (C2) ck Surface (C7)
Depth (inches): Remarks: YDROLOGY Vetland Hydrology Indicators: Inimary Indicators (any one indicator is suffic Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine)	Sent) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C4	)	Secondary Ir Water M Sedimer Drift Dep Drainage Dry-Sea ts (C3) Thin Mu Crayfish	dicators (2 or more required) arks (B1) (Riverine) It Deposits (B2) (Riverine) posits (B3) (Riverine) e Patterns (B10) son Water Table (C2) ck Surface (C7) Burrows (C8)
Depth (inches):	Salt Crust (B11) Salt Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C4 Recent Iron Reduction in Plow	)	Secondary in Water M Sedimer Drift Dep Drainage Dry-Sea .ts (C3) Thin Mut Crayfish C6) Saturatio	Adicators (2 or more required) arks (B1) (Riverine) at Deposits (B2) (Riverine) posits (B3) (Riverine) e Patierns (B10) son Water Table (C2) ck Surface (C7) Burrows (C8) on Visible on Aerial Imagery (C8)
Depth (inches):	Salt Crust (B11) Salt Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C4 Recent Iron Reduction in Plow	)	<u>Secondary ir</u> <u>Secondary ir</u> Water M <u>Sedimer</u> Drift Dep <u>Drainage</u> Dry-Sea ts (C3) <u>Thin Mu</u> <u>Crayfish</u> C6) <u>Saturatic</u> Shallow	idicators (2 or more required) arks (B1) (Riverine) it Deposits (B2) (Riverine) posits (B3) (Riverine) e Patterns (B10) son Water Table (C2) ck Surface (C7) Burrows (C8) on Visible on Aerial Imagery (C9 Aquitard (D3)
Depth (inches):	Salt Crust (B11) Salt Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C4 Recent Iron Reduction in Plow	)	<u>Secondary ir</u> <u>Secondary ir</u> Water M <u>Sedimer</u> Drift Dep <u>Drainage</u> Dry-Sea ts (C3) <u>Thin Mu</u> <u>Crayfish</u> C6) <u>Saturatic</u> Shallow	Adicators (2 or more required) arks (B1) (Riverine) at Deposits (B2) (Riverine) posits (B3) (Riverine) e Patierns (B10) son Water Table (C2) ck Surface (C7) Burrows (C8) on Visible on Aerial Imagery (C8
Depth (inches):	Sent) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C4 Recent Iron Reduction in Plow ) Other (Explain in Remarks) /	) ed Solls (C	<u>Secondary ir</u> <u>Secondary ir</u> Water M <u>Sedimer</u> Drift Dep <u>Drainage</u> Dry-Sea ts (C3) <u>Thin Mu</u> <u>Crayfish</u> C6) <u>Saturatic</u> Shallow	idicators (2 or more required) arks (B1) (Riverine) it Deposits (B2) (Riverine) posits (B3) (Riverine) e Patterns (B10) son Water Table (C2) ck Surface (C7) Burrows (C8) on Visible on Aerial Imagery (C9 Aquitard (D3)
Depth (inches):	Salt Crust (B11) Salt Crust (B11) Salt Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Presence of Reduced Iron (C4 Recent Iron Reduction in Plow Other (Explain in Remarks)	) ed Solls (0	<u>Secondary ir</u> <u>Secondary ir</u> Water M <u>Sedimer</u> Drift Dep <u>Drainage</u> Dry-Sea ts (C3) <u>Thin Mu</u> <u>Crayfish</u> C6) <u>Saturatic</u> Shallow	idicators (2 or more required) arks (B1) (Riverine) it Deposits (B2) (Riverine) posits (B3) (Riverine) e Patterns (B10) son Water Table (C2) ck Surface (C7) Burrows (C8) on Visible on Aerial Imagery (C9 Aquitard (D3)
Depth (inches):	Salt Crust (B11)	) ed Solls (C 	Secondary ir Water M Sedimer Drift Dep Drainage Dry-Sea ts (C3) Thin Muu Crayfish C6) Saturatio Shallow FAC-Nei	Idicators (2 or more required) arks (B1) (Riverine) at Deposits (B2) (Riverine) posits (B3) (Riverine) e Patterns (B10) son Water Table (C2) ck Surface (C7) Burrows (C8) on Visible on Aerial Imagery (C9 Aquitard (D3) utral Test (D5)
Depth (inches):	Salt Crust (B11)	) ed Solls (C 	<u>Secondary ir</u> <u>Secondary ir</u> Water M <u>Sedimer</u> Drift Dep <u>Drainage</u> Dry-Sea ts (C3) <u>Thin Mu</u> <u>Crayfish</u> C6) <u>Saturatic</u> Shallow	Idicators (2 or more required) arks (B1) (Riverine) at Deposits (B2) (Riverine) posits (B3) (Riverine) e Patterns (B10) son Water Table (C2) ck Surface (C7) Burrows (C8) on Visible on Aerial Imagery (C9 Aquitard (D3) utral Test (D5)
Depth (inches):	Salt Crust (B11)	) ed Solls (C  Wetla	Secondary in Water M Sedimer Drift Dep Drift Dep Dry-Sea ts (C3) Thin Mur Crayfish C6) Saturatio Shallow FAC-Nea and Hydrology Prese	Idicators (2 or more required) arks (B1) (Riverine) at Deposits (B2) (Riverine) posits (B3) (Riverine) e Patterns (B10) son Water Table (C2) ck Surface (C7) Burrows (C8) on Visible on Aerial Imagery (C9 Aquitard (D3) utral Test (D5)
Depth (inches):	Salt Crust (B11)	) ed Solls (C  Wetla	Secondary in Water M Sedimer Drift Dep Drift Dep Dry-Sea ts (C3) Thin Mur Crayfish C6) Saturatio Shallow FAC-Nea and Hydrology Prese	Idicators (2 or more required) arks (B1) (Riverine) at Deposits (B2) (Riverine) posits (B3) (Riverine) e Patterns (B10) son Water Table (C2) ck Surface (C7) Burrows (C8) on Visible on Aerial Imagery (C9 Aquitard (D3) utral Test (D5)
Depth (inches):	Salt Crust (B11)	) ed Solls (C  Wetla	Secondary in Water M Sedimer Drift Dep Drift Dep Dry-Sea ts (C3) Thin Mur Crayfish C6) Saturatio Shallow FAC-Nea and Hydrology Prese	Idicators (2 or more required) arks (B1) (Riverine) at Deposits (B2) (Riverine) posits (B3) (Riverine) e Patterns (B10) son Water Table (C2) ck Surface (C7) Burrows (C8) on Visible on Aerial Imagery (C9 Aquitard (D3) utral Test (D5)
Depth (inches):	Salt Crust (B11)	) ed Solls (C  Wetla	Secondary in Water M Sedimer Drift Dep Drift Dep Dry-Sea ts (C3) Thin Mur Crayfish C6) Saturatio Shallow FAC-Nea and Hydrology Prese	Idicators (2 or more required) arks (B1) (Riverine) at Deposits (B2) (Riverine) posits (B3) (Riverine) e Patterns (B10) son Water Table (C2) ck Surface (C7) Burrows (C8) on Visible on Aerial Imagery (C9 Aquitard (D3) utral Test (D5)
Depth (inches):	Salt Crust (B11)	) ed Solls (C  Wetla	Secondary in Water M Sedimer Drift Dep Drift Dep Dry-Sea ts (C3) Thin Mur Crayfish C6) Saturatio Shallow FAC-Nea and Hydrology Prese	Idicators (2 or more required) arks (B1) (Riverine) at Deposits (B2) (Riverine) posits (B3) (Riverine) e Patterns (B10) son Water Table (C2) ck Surface (C7) Burrows (C8) on Visible on Aerial Imagery (C9 Aquitard (D3) utral Test (D5)

## Exhibit B2

## DesertXpress Field Data For Death Valley-Lower Amargosa Watershed (HUC 18090203)

HBG Watershed Number	HUC 12 Watershed Name	HBG Field Data	ICF Jones & Stokes Field Data	Comments
23	Halloran Summit	Yes	Yes	
24	Rock Tank	Yes	Yes	
25	Pachalka Spring-Kingston Wash	Yes	No	
26	Ord Tank	Yes	Yes	
27	Piute Valley	Yes	Yes	

**Huffman-Broadway Group** 

**Field Data Forms** 

For DesertXpress

HUC 12 Watershed Rock Tank

HBG Watershed ID # 24

Within Death Valley-Lower Amargosa Watershed (HUC 18090203)

# DesertXpress

# **Field Notebook**

## HBG Watershed ID # 24

Watershed Name: Rock Tank

If found, please return to:

George Ball Huffman-Broadway Group, Inc. 828 Mission Avenue San Rafael, California 94901 415.925.2000 gball@h-bgroup.com

Return Postage Guaranteed

					onal co-dominant ses scies	lonal codominent aes story ecies	ecies
	(C) Above OHW	<ol> <li>Desert pavement</li> <li>Rock varnish</li> <li>Rock varnish</li> <li>Clast weathering</li> <li>Salt splitting</li> <li>Carbonate etching</li> <li>Depositional topography</li> <li>Caliche rubble</li> <li>Soil development</li> <li>Surface color/tone</li> <li>Drainage development</li> <li>Surface rounding</li> </ol>		(F) Above OHW	<ol> <li>Annual herbs, xeric ruderals</li> <li>Perennial herbs, non-clonal</li> <li>Perennial herbs, clonal and non-clonal co-dominant</li> <li>Mature pioneer trees, no young trees</li> <li>Mature pioneer trees w/upland species</li> <li>Late-successional species</li> </ol>	<ul> <li>7) Xeroriparian species</li> <li>8) Annual herbs, xeric ruderals</li> <li>9) Perennial herbs, non-clonal</li> <li>10) Perennial herbs, clonal and non-clonal codominent</li> <li>11) Mature pioneer trees, no young trees</li> <li>12) Mature pioneer trees, xeric understory</li> <li>13) Mature pioneer trees w/upland species</li> <li>14) Late-successional species</li> <li>15) Upland species</li> </ul>	<ul><li>16) Annual herbs, xeric ruderals</li><li>17) Mature pioneer trees w/upland species</li><li>18) Upland species</li></ul>
Potential Geomorphic OHWM Indicators	(B) At OHW	Valley flat Active floodplain Benches: low, mid, most prominent Highest surface of channel bars Top of point bars Break in bank slope Upper limit of sand-sized particles Change in particle size distribution Staining of rocks Exposed root hairs below intact soil layer Staining of rocks I titter (organic debris, larger than twigs)	Potential Vegetation OHWM Indicators	(E) At OHW	<ol> <li>Annual herbs, hydromesic ruderals</li> <li>Perennial herbs, hydromesic clonals</li> <li>Pioneer tree seedlings</li> <li>Pioneer tree saplings</li> </ol>	<ul> <li>5) Sparse, low vegetation Annual herbs, hydromesic</li> <li>6) Ruderals</li> <li>7) Perennial herbs, hydromesic clonals</li> <li>8) Pioneer tree seedlings</li> <li>9) Pioneer tree saplings</li> <li>10) Xeroriparian species</li> <li>11) Annual herbs, xeric ruderals</li> </ul>	<ul><li>12) Sparse, Iow vegetation</li><li>13) Xeroriparian species</li><li>14) Annual herbs, xeric ruderals</li></ul>
	(A) Below OHW	1)In-stream dunes1) Va2)Crested ripples3) Be3)Flaser bedding3) Be4)Harrow marks3) Be5)Gravel sheets to rippled sands5) To6)Meander bars5) To7)Up7) Up7)Sand tongues6) Br7)Dong gravel bars6) Br9)Long gravel bars10) E10)Cobble bars behind obstructions11) S11)Stepped-bed morphology in gravel11) S13)Stepped-bed morphology in gravel13) Cobstacte marks16)Dessication/mud cracks13)17)Armored mud balls13)18)Knick Points		(D) Below OHW	Hydroriparian 1) Herbaceous marsh species indicators 2) Pioneer tree seedlings 3) Sparse, low vegetation 4) Annual herbs, hydromesic ruderals 5) Perennial herbs, hydromesic clonals	Mesoriparian 6) Pioneer tree seedlings indicators 7) Sparse, low vegetation 8) Pioneer tree saplings 9) Xeroriparian species	Xeroriparian 10) Sparse, low vegetation indicators 11) Xeroriparian species 12) Annual herbs, xeric ruderals

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-031103 Comments
Comments
Use note pages at back of notebook for comments. Put comment number in block below.
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Reference: D = Drainage; M = Manmade; MD = Major Drainage; R = River

## **ICF Jones & Stokes**

## Wetland Determination Data Forms – Arid West Region

## For DesertXpress

HUC 12 Watershed Rock Tank

HBG Watershed ID # 24

Within Death Valley-Lower Amargosa Watershed (HUC 18090203)

- 4

Project/Site:	City/County: <u>Saw Bownery dive</u> Sampling Date: <u>3/14/04</u> 
Applicant/Owner: Circle 13:77	
Investigator(s): <u>5 H</u> , JW	Section, Township, Range:
Landform (hillslope, terrace, etc.): Valley Flour	Local relief (concave, convex, none): <u>ABRACLUL</u> Slope (%): <u>120</u> 
Subregion (LRR):	
Soil Map Unit Name: <u>MAR</u>	
Are climatic / hydrologic conditions on the site typical for this time of y	ear? Yes No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly	y disturbed? Are "Normal Circumstances" present? Yes <u>1</u> No
Are Vegetation <u>No</u> , Soil, or Hydrology <u>&gt;</u> naturally p	roblematic? (If needed, explain any answers in Remarks.)
	important locations, transects, important features, etc.

### SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes No Yes No Yes No	Is the Sampled Area . within a Wetland?	Yes No
Remarks:	OAW	M W 1' H 6'' S 3:1	Photos 8857:N 8858:5

#### VEGETATION

	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Use scientific names.) 1	<u>% Cover</u>	<u>Species?</u>	<u>Status</u>	Number of Dominant Species (A)
2				Total Number of Dominant Species Across All Strata: <u>71</u> (B)
4 Total Cover				Percent of Dominant Species (A/B)
Sapling/Shrub Stratum				Prevalence Index worksheet:
1				Total % Cover of: Multiply by:
2				OBL species x 1 =
3				FACW species x 2 =
4				FAC species x 3 =
5			· · · · · · · · · · · · · · · · · · ·	FACU species $5 \times 4 = \frac{4}{20}$
Total Cover	<u> </u>	-		UPL species 47546 x5= 240 200 215
Herb Stratum	5	XN	ble	Column Totals: 4248 (A) 246-235(B)
2/ Bromas Madritensis sep. Inhouse	40	Y	JAL NI	t sugget a sh
2. Amnsinckia tessellator		- <u> </u>		-Hydrophytic Vegetation Indicators:
4. Erodium licatarium.	<u> </u>	· <u>· · · ·</u>	1-+01. x 11	Dominance Test is >50%
5. Schismus barbatus			(racut)	Prevalence Index is ≤3.0 ¹
$6. \qquad (= S. kali \\ 7. \qquad oR = S. pestifer)$	-		(FAGU)	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
B Total Cove				Problematic Hydrophytic Vegetation ¹ (Explain)
<u>Woody Vine Stratum</u> 1				¹ Indicators of hydric soil and wetland hydrology must be present.
2Total Cove				Hydrophytic Vegetation
% Bare Ground in Herb Stratum 5 8 % Cove	r of Biotic (	Crust <u>C</u>	)	Present? Yes No
Remarks:				
- Construct				

L	th needed to document the indicator or con	firm the absence of indicators.)	
	Redox Features	2 Texture Remarks	
epth <u>Matrix</u> oches) Color (moist) %	Color (moist) % Type ¹ Loc		
		zilty grand	
14 IDYR 4/2			
· · · · · · · · · · · · · · · · · · ·			
······			
		ing, RC=Root Channel, M=Matrix.	
Type: C=Concentration, D=Depletion, RM	M=Reduced MatrixLocation. PL-r ore en	Indicators for Problematic Hydric Soils ³ :	
Type: C=Concentration, D=Depletion, Ri lydric Soil Indicators: (Applicable to a		1 cm Muck (A9) (LRR C)	
Histosoi (A1)	29/104 ((000) (00)	2 cm Muck (A10) (LRR B)	
Histic Epipedon (A2)	Stripped Matrix (S6)	Reduced Vertic (F18)	
Black Histic (A3)	Loamy Mucky Mineral (F1)	Red Parent Material (TF2)	
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)	
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3)		
1 cm Muck (A9) (LRR D)	Redox Dark Surface (F6) Depleted Dark Surface (F7)		
Depleted Below Dark Surface (A11)			
Thick Dark Surface (A12)	Redox Depressions (F8)	³ Indicators of hydrophytic vegetation and	
Sandy Mucky Mineral (S1)	Vernal Pools (F9)	wetland hydrology must be present.	
Sandy Gleyed Matrix (S4)			
Restrictive Layer (if present):			1
		1 1	/
Type:		Hydric Soil Present7 Yes No	′ <del>/</del>
Type: Depth (inches): Remarks:		Hydric Soil Present? Yes No	' <u></u>
Depth (inches):			, 
Depth (inches): Remarks: -		Secondary Indicators (2 or more rec	, 
Depth (inches): Remarks: -YDROLOGY Wetland Hydrology Indicators:		Secondary Indicators (2 or more rec Water Marks (B1) (Riverine)	uired)
Depth (inches): Remarks: -YDROLOGY Wetland Hydrology Indicators:	sufficient)	Secondary Indicators (2 or more rec Water Marks (B1) (Riverine) Sediment Deposits (B2) (River	uired)
Depth (inches): Remarks: <b>IYDROLOGY</b> Wetland Hydrology Indicators: Primary Indicators (any one indicator is	sufficient) Salt Crust (B11)	Secondary Indicators (2 or more red Water Marks (B1) (Riverine) Sediment Deposits (B2) (River Drift Deposits (B3) (Riverine)	uired)
Depth (inches): Remarks: <b>IYDROLOGY</b> Wetland Hydrology Indicators: <u>Primary Indicators (any one indicator is</u> Surface Water (A1)	sufficient) Salt Crust (B11) Biotic Crust (B12)	Secondary Indicators (2 or more req Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10)	uired)
Depth (inches): Remarks: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator is Surface Water (A1) High Water Table (A2) Saturation (A3)	sufficient) Salt Crust (B11) Biotic Crust (B12) Aguatic Invertebrates (B13)	Secondary Indicators (2 or more reg Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2)	uired)
Depth (inches): Remarks: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator is Surface Water (A1) High Water Table (A2) Saturation (A3)	sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Suffide Odor (C1)	Secondary Indicators (2 or more red Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2)	uired)
Depth (inches): Remarks: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine)	sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along L	Secondary Indicators (2 or more rec Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Cravfish Burrows (C8)	ine)
Depth (inches): Remarks: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriver	sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along L Brosence of Reduced Iron (C4)	Secondary Indicators (2 or more reg Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) tiving Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C8)	ine)
Depth (inches): Remarks: <b>HYDROLOGY</b> Wetland Hydrology Indicators: Primary Indicators (any one indicator is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) SedIment Deposits (B2) (Nonriver Drift Deposits (B3) (Nonriverine)	sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along L Presence of Reduced Iron (C4) Recent Iron Reduction in Plowe	Secondary Indicators (2 or more recomplete to the secondary Indicators (1 or more recomplete) (1 or more recomp	ine)
Depth (inches): Remarks: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriver Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6)	sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along L Presence of Reduced Iron (C4) Recent Iron Reduction in Plowe	Secondary Indicators (2 or more recomposition of the secondary Indicators (2 or more recomposition)         Water Marks (B1) (Riverine)         Sediment Deposits (B2) (Riverine)         Drift Deposits (B3) (Riverine)         Drainage Patterns (B10)         Dry-Season Water Table (C2)         Thin Muck Surface (C7)         Crayfish Burrows (C8)         ad Soils (C6)       Saturation Visible on Aerial Im         Shallow Aguitard (D3)	ine) agery (C
Depth (inches): Remarks: <b>HYDROLOGY</b> Wetland Hydrology Indicators: Primary Indicators (any one indicator is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Image	sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along L Presence of Reduced Iron (C4) Recent Iron Reduction in Plowe	Secondary Indicators (2 or more recomplete to the secondary Indicators (1 or more recomplete) (1 or more recomp	ine) agery (C
Depth (Inches): Remarks: <b>HYDROLOGY</b> Wetland Hydrology Indicators: Primary Indicators (any one indicator is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) SedIment Deposits (B2) (Nonriver Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Image Water-Stained Leaves (B9)	sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along L Presence of Reduced Iron (C4) Recent Iron Reduction in Plowe ry (B7)Other (Explain in Remarks)	Secondary Indicators (2 or more reg	ine) agery (C
Depth (inches): Remarks: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriver Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Image Water-Stained Leaves (B9) Field Observations:	sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along L Presence of Reduced Iron (C4) Recent Iron Reduction in Plowe ry (B7)Other (Explain in Remarks)	Secondary Indicators (2 or more reg	ine) agery (C
Depth (inches): Remarks: <b>IYDROLOGY</b> Wetland Hydrology Indicators: Primary Indicators (any one indicator is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Image Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes	sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along L Presence of Reduced Iron (C4) Recent Iron Reduction in Plowe ry (B7)Other (Explain in Remarks)	Secondary Indicators (2 or more recomplete to the secondary Indicators (B1) (Riverine)	ine) agery (C
Depth (inches): Remarks:	sufficient)	Secondary Indicators (2 or more recomplete or more recompl	ine) agery (C
Depth (inches): Remarks: <b>HYDROLOGY</b> Wetland Hydrology Indicators: Primary Indicators (any one indicator is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriver Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Image Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes Water Table Present? Yes	sufficient)  Salt Crust (B11)  Biotic Crust (B12)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along L  Presence of Reduced Iron (C4)  Recent Iron Reduction in Plowe  No / Depth (inches): No / Depth (inches): Depth (inches):	Secondary Indicators (2 or more reg	ine) agery (C
Depth (inches): Remarks: <b>HYDROLOGY</b> Wetland Hydrology Indicators: Primary Indicators (any one indicator is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriver Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Image Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes Water Table Present? Yes	sufficient)  Salt Crust (B11)  Biotic Crust (B12)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along L  Presence of Reduced Iron (C4)  Recent Iron Reduction in Plowe  No / Depth (inches): No / Depth (inches): Depth (inches):	Secondary Indicators (2 or more reg	ine) agery (C
Depth (inches): Remarks: <b>HYDROLOGY</b> Wetland Hydrology Indicators: Primary Indicators (any one indicator is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriver Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Image Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes Water Table Present? Yes	sufficient)	Secondary Indicators (2 or more reg	ine) agery (C
Depth (inches): Remarks: <b>HYDROLOGY</b> Wetland Hydrology Indicators: Primary Indicators (any one indicator is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriver Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Image Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes Water Table Present? Yes	sufficient)  Salt Crust (B11)  Biotic Crust (B12)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along L  Presence of Reduced Iron (C4)  Recent Iron Reduction in Plowe  No / Depth (inches): No / Depth (inches): Depth (inches):	Secondary Indicators (2 or more reg	ine) agery (C
Depth (inches): Remarks: <b>HYDROLOGY</b> Wetland Hydrology Indicators: Primary Indicators (any one indicator is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriver Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Image Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes Water Table Present? Yes	sufficient)  Salt Crust (B11)  Biotic Crust (B12)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along L  Presence of Reduced Iron (C4)  Recent Iron Reduction in Plowe  No / Depth (inches): No / Depth (inches): Depth (inches):	Secondary Indicators (2 or more reg	ine) agery (C
Depth (inches):	sufficient)  Salt Crust (B11)  Biotic Crust (B12)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along L  Presence of Reduced Iron (C4)  Recent Iron Reduction in Plowe  No / Depth (inches): No / Depth (inches): Depth (inches):	Secondary Indicators (2 or more reg	ine) agery (C

2.250 country for the second strategies and in the second

Project/Site:	с	ity/County:	Sam 1	Barrier Bind Sampling Date: 3/14/05
Applicant/Owner:Carcle Point				
	-	ection Tow	mshin Rano	De:
1 the children terrors ato's Via 190, 1 Mg	L	_ocal relief (	concave, co	prvex, none): $\underline{Or(COULC}$ Stope (%), $\underline{178}$
Subregion (LRR): D	tet: La	-115.72	1808 -	Tong: N 35, 427772 Datum: HAD 83
Soil Map Unit Name: 10 1/2	<u></u>	<u> </u>	/	NWI classification N/A 20NE //
Are climatic / hydrologic conditions on the site typical for this t	ime of vea	r? Yes \	No	(If no, explain in Remarks.)
			ـــــــــــــــــــــــــــــــــــــ	lormal Circumstances" present? Yes No
Are Vegetation NO, Soil or Hydrology sig				ded, explain any answers in Remarks.)
Are Vegetation No, Soil, or Hydrology nal			•	
SUMMARY OF FINDINGS – Attach site map si	howing	sampling	point lo	cations, transects, important reatures, etc.
Hydrophytic Vegetation Present?       Yes No         Hydric Soil Present?       Yes No         Wetland Hydrology Present?       Yes No         Remarks:       No	_¥_/	withi	a Sampled / n a Wetland	1? Yes <u>No</u>
			,,	53:1
VEGETATION	Absolute	Dominant	Indicator	Dominance Test worksheet:
		Species?	<u>Status</u>	Number of Dominant Species That Are OBL, FACW, or FAC: (A) Total Number of Dominant Species Across All Strata: (B)
4 Total Cover:	Ø			Percent of Dominant Species (A/B)
Sapling/Shrub Stratum     1.     HyphenOclea     Salsola       2.	4			Prevalence Index worksheet:
5				FACU species $\frac{7}{2}$ x 4 = $\frac{8}{2}$
Total Cover: <u>Herb Stratum</u> 1. <u>Salsola tromus</u> 2/ <u>Bromus</u> madritensis SSP. rubas	<u>2</u> <u>45</u>		HPE HPE ME	FAC species $x_3 =$ FACU species $\frac{7}{55}$ $x_4 =$ $\frac{8}{5755}$ UPL species $\frac{5755}{57}$ $x_5 =$ $\frac{2857775}{28572}$ Column Totals: $\frac{57}{57}$ (A) $\frac{385572}{57}$ (B) Prevalence index = B/A = $\frac{549776}{57}$
3. Anni sinctia tessellata	3	<u>N</u>	UP-LNL	Hydrophytic Vegetation Indicators:
4. Fradium ricutatium	2	<u></u>	UPL NI	Dominance Test is >50%
5. S. hismus barbatus	· <u> </u>	13	FACUT)	Prevalence Index is ≤3.0 ¹
6. (= S. Kali 7. or = E. pestifer)		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	FACU	Morphological Adaptations ¹ (Provide supporting
8				data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation ¹ (Explain)
Total Cover:	53	-		
Woody Vine Stratum           1.		. <u></u>	. <u></u>	¹ Indicators of hydric soil and wetland hydrology must be present.
	of Biotic C	- rust	3	Hydrophytic Vegetation Present? Yes No
Remarks:				

ofile Description: (Describe to the depth	n needed to document the indicator or c	
enth <u>Matrix</u> –	Redox Features Color (moist) % Type ¹ L	oc ² Texture Remarks
nches} <u>Color (moist)</u> 79 -		<u>silt, grove</u>
14 10 YR 4/2		<u></u>
······································		
	Participation: PL=Pore L	ining, RC=Root Channel, M=Matrix.
ype: C=Concentration, D=Depletion, RM=	Reduced Madrix. Loodsoft	Indicators for Problemato righter come
ype: C=Concentration, D=Depletion, 100- ydric Soil Indicators: (Applicable to all I	Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
_ Histosol (A1)	Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
Histic Epipedon (A2)	Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
Black Histle (A3)	Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
Hydrogen Sulfide (A4)	Depleted Matrix (F3)	Other (Explain In Remarks)
Stratified Layers (A5) (LRR C)	Depleted Mattix (10) Redox Dark Surface (F6)	
1 cm Muck (A9) (LRR D)	Depleted Dark Surface (F7)	
Depleted Below Dark Surface (A11)	Redox Depressions (F8)	
Thick Dark Surface (A12)	Vernal Pools (F9)	³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)		wetland hydrology must be present.
Sandy Gleyed Matrix (S4)		
Restrictive Layer (if present):		
_		
Туре:		Hydric Soil Present? Yes No//
Type: Depth (inches): Remarks:		Hydric Soil Present? Yes No
Depth (inches):		Hydric Soil Present? Yes <u>No V</u>
Depth (Inches):		
Depth (Inches): Remarks: YDROLOGY		Secondary Indicators (2 or more required)
Depth (Inches): Remarks: YDROLOGY Wetland Hydrology Indicators:		<u>Secondary Indicators (2 or more required)</u> Water Marks (B1) (Riverine)
Depth (Inches): Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one Indicator is suf	ficient)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine)
Depth (Inches): Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one Indicator is suf 	fficient) Salt Crust (B11)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine)
Depth (Inches): Remarks: YDROLOGY Wetiand Hydrology Indicators: Primary Indicators (any one indicator is suf Surface Water (A1) High Water Table (A2)	fficient) Salt Crust (B11) Biotic Crust (B12)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10)
Depth (Inches): Remarks: YDROLOGY Wetiand Hydrology Indicators: Primary Indicators (any one indicator is suf Surface Water (A1) High Water Table (A2) Saturation (A3)	fficient) Sait Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2)
Depth (Inches): Remarks: YDROLOGY Wetiand Hydrology Indicators: Primary Indicators (any one Indicator is suf Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine)	fficient) Sait Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Living Roots (C3) Thin Muck Surface (C7)
Depth (Inches): Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one Indicator is suf Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine)	ficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along L	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Living Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C8)
Depth (Inches): Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one Indicator is suf Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine)	fficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along L Presence of Reduced Iron (C4)	Secondary Indicators (2 or more required)
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Project/Site:City/County:	Sampling Date: 3/14/07
Applicant/Owner: CICCL PSINT	State: Sampling Point: 61-3
	je:
Local relief (concave, co	nyex, none): <u>newcoul</u> Slope (%): <u>dło</u>
	Cong, 10 0 0 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	NWI classification: N/A ZONE/
the align the (hydrologic conditions on the site typical for this time of year? Yes No	(If no, explain in Remarks.)
Are Vegetation <u>NO</u> , Soil , or Hydrology significantly disturbed? Are "N	lormal Circumstances" present? Yes No
Are Vegetation <u>NO</u> , Soli <u></u> , or Hydrology <u></u> naturally problematic? (If nee	ded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sampling point lo	cations, transects, important features, etc.
Hydrophytic Vegetation Present?       Yes No       Is the Sampled A         Hydric Soil Present?       Yes No       within a Wetland	Area
Wetland Hydrology Present? Yes No 1	
Remarks: 0HWM   - 1/ h-3/   5-3	1 1961 ;N
VEGETATION Absolute Dominant Indicator	Dominance Test worksheet: /
Tree Stratum       (Use scientific names.)       Absolute       Dominant       Indicator         1.	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2	Total Number of Dominant 4 (B)
3	
4 Total Cover:	Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum	
1. H. punclea salsala 2 7 ATENL	Prevalence index worksheet: Total % Cover of: Multiply by:
2	OBL species x1 =
3	FACW species x 2 =
4	EAC species X3 =
5	FACU species $5$ $x4 = 20$ UPL species $2717$ $x5 = 407585$
Total Cover:	UPL species $27(17 \times 5 = 40,958)$
1 Salah & Value 5 T with	Column Totals: 22244 (A) HOHT 105(B)
2 Branus forta	Prevalence Index = $B/A = \frac{B'4}{2}A$
1/2 Barry modritoncis SSP. Inbens 4 4 441 ME	Hydrophytic Vegetation Indicators:
4. Emplique circultation 3 N OPENSE	Dominance Test is >50%
5. Ama siectia tessellata 2 N UPE NIL	Prevalence index is ≤3.0 ¹
B Schrigen barbatas 2 N JAI NI	Morphological Adaptations ¹ (Provide supporting
7. 2 1 = 3. 0000 /	data in Remarks or on a separate sheet)
8. $a = 5$ . $pestifer$ ) (FACU) Total Cover: $2i$ )	Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum	Indicators of hydric soil and wetland hydrology must
1	be present.
2	Hydrophytic Vegetation
% Bare Ground in Herb Stratum <u> </u>	Present? Yes No
Remarks:	
F-I.1-128	
Γ-1. Ι- ΙΖΟ	

S	0	ľ	L

61-3 Sampling Point:

IL ofile Description: (Describe to the de				Ta luna	Remarks
epth <u>Matrix</u> nches) Color (moist) %			Loc ²	<u>Texture</u>	Nellians
$\frac{6}{6}  10 \text{ YR} \frac{4}{3}  \dots$			<u> </u>	LORMIN SILL -	
<u>6 10 48 43</u>					
			_		
			<u> </u>		
			<u> </u>		
ype: C=Concentration, D=Depletion, F	RM=Reduced Matrix. ² L	ocation: PL=Po	re Lining,	RC=Root Channe	or Problematic Hydric Soils ³ :
ype: C=Concentration, D=Depletion, o ydric Soil Indicators: (Applicable to	all LRRs, unless otherwi	se noted.)		Indicators in	
	Sandy Redux	(30)		1 CM ML	юск (А9) (LRR C) юк (А10) (LRR B)
_ Histosol (A1) _ Histic Epipedon (A2)	Stripped Matri	x (S6)			j Vertic (F18)
Black Histic (A3)	Loamy Mucky	Mineral (F1)		Reduced	rent Material (TF2)
Hydrogen Sulfide (A4)	Loamy Gleyeo	l Matrix (F2)		Red Par Other (P	Explain in Remarks)
Stratified Layers (A5) (LRR C)	Depieted Matr	ix (F3)			
1 cm Muck (A9) (LRR D)	Redox Dark S	urface (F6)			
Depleted Below Dark Surface (A11)	Depleted Dark				
Thick Dark Surface (A12)	Redox Debres	(FO)		³ Indicators of	of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Vernal Pools	[[3]		wetland	hydrology must be present.
Sandy Gleyed Matrix (S4)			<u> </u>		
Restrictive Layer (if present):				ĺ	
Туре:					Present? Yes <u>No</u>
				Hydric Soll	
Depth (inches): Remarks:				Hydric Soil	
				Hydric Soil	
Remarks:					
Remarks:	-			Secor	idary Indicators (2 or more require
Remarks: YDROLOGY Wetland Hydrology Indicators:				<u>Secor</u>	idary indicators (2 or more require Vater Marks (81) (Riverine)
Remarks: IYDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one Indicator Is	; sufficient)	B11)		<u>Secor</u> V	adary Indicators (2 or more require Vater Marks (B1) (Riverine) rediment Deposits (B2) (Riverine)
Remarks: IYDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one Indicator Is Surface Water (A1)	: sufficient) Salt Crust (			<u>Secor</u> V S S	idary indicators (2 or more require Vater Marks (B1) (Riverine) iediment Deposits (B2) (Riverine) brift Deposits (B3) (Riverine)
Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator is Surface Water (A1) High Water Table (A2)	i sufficient) Salt Crust ( Biotic Crust	l (B12)		<u>Secor</u> W S S	idary indicators (2 or more require Vater Marks (B1) (Riverine) iediment Deposits (B2) (Riverine) brift Deposits (B3) (Riverine) Drainage Patterns (B10)
Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator is Surface Water (A1) High Water Table (A2) Saturation (A3)	i sufficient) Salt Crust ( Biotic Crust Aquatic Inv Hydrogen S	t (B12) ertebrates (B13 Sulfide Odor (C1	i)	Secor V S S S S	idary indicators (2 or more require Vater Marks (B1) (Riverine) rediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2)
Remarks: YDROLOGY Wetiand Hydrology Indicators: Primary Indicators (any one Indicator is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine)	: sufficient) Salt Crust ( Biotic Crust Aquatic Inv Hydrogen S	t (B12) ertebrates (B13 Sulfide Odor (C1	i)	Secon 	idary indicators (2 or more require Vater Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine) Orainage Patterns (B10) Ory-Season Water Table (C2) Thin Muck Surface (C7)
Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one Indicator Is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine)	i sufficient) Salt Crust ( Biotic Crust Aquatic Inv Hydrogen S rine) Oxidized R	t (B12) ertebrates (B13 Sulfide Odor (C1 hizospheres alo	i) Ing Living	Secor 	adary indicators (2 or more require Vater Marks (B1) (Riverine) Rediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine) Orainage Patterns (B10) Ory-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8)
Remarks: Wetland Hydrology Indicators: Primary Indicators (any one Indicator Is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine)	i sufficient) Salt Crust ( Biotic Crust Aquatic Inv Hydrogen S rine) Oxidized R Presence of	t (B12) ertebrates (B13 Sulfide Odor (C1 hizospheres alo of Reduced Iron	i) ng Living (C4)	Secor V S C C C C C Roots (C3) 1 C its (C6) S	Indary Indicators (2 or more require Vater Marks (B1) (Riverine) Rediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine) Oralnage Patterns (B10) Ory-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imager
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Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriver Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Image	i sufficient) Salt Crust ( Biotic Crust Aquatic Inv Hydrogen S rine) Oxidized R Presence o Recent Iro	t (B12) ertebrates (B13 Sulfide Odor (C1 hizospheres alo of Reduced Iron	i) ong Living (C4) Plowed So	Secor V S C C C C C C C ils (C6) S	Indary Indicators (2 or more require Vater Marks (B1) (Riverine) Rediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine) Oralnage Patterns (B10) Ory-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imager
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Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Image Water-Stained Leaves (B9) Field Observations:	i sufficient) Salt Crust ( Biotic Crust Aquatic Inv Hydrogen S rine) Oxidized R Presence of Recent Iron ery (B7) Other (Exp	t (B12) ertebrates (B13 Sulfide Odor (C1 hizospheres alo of Reduced Iron n Reduction In F Main in Remarks	I) ng Living (C4) Plowed So )	Secor V S C C C C C C C ils (C6) S	Idary Indicators (2 or more require Vater Marks (B1) (Riverine) Rediment Deposits (B2) (Riverine) Ordinage Patterns (B10) Ory-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imager Shallow Aquitard (D3)
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Project/Site: DSX Applicant/Owner: CITCL Birt	_ City/County: <u>5am Buyan dino</u> Sampling Date: <u>3/14/58</u> State: <u>CA</u> Sampling Point: <u>61-4</u>
Invactionator(c). JU SU	Section, Township, Range:
V	Local relief (concave, convex, none): <u>Coviciul</u> Slope (%); <u>1%</u>
	<u>J-115.723178</u> cong: <u>N 35.425491</u> Datum: <u>NAD 83</u> NWI classification: <i>UH</i> 20NE//
Soil Map Unit Name: <u>NIA</u>	
Are climatic / hydrologic conditions on the site typical for this time of	year? Yes _/ No (If no, explain in Remarks.)
Are Vegetation <u>NO</u> , Soil <u>, or Hydrology</u> significant Are Vegetation <u>NO</u> , Soil <u>, or Hydrology</u> naturally p	tly disturbed? Are "Normal Circumstances" present? Yes _/ No
Are Vegetation ND, Soil , or Hydrology naturally	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showir	ng sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present?         Yes No           Hydric Soil Present?         Yes No           Wetland Hydrology Present?         Yes No	is the Sampled Area
Remarks:	01/wm   w-11   DSX-074 H-3"   DSX-075 5-3:1
VEGETATION	te Dominant Indicator Dominance Test worksheet:
Tree Stratum       (Use scientific names.)       % Cov         1.	ter Dominant Indicator Dominance Test worksheet: <u>ver Species? Status</u> Number of Dominant Species (A) That Are OBL, FACW, or FAC:
3	Total Number of Dominant 2 (B)
4 Total Cover:	Percent of Dominant Species (A/B)
Sapling/Shrub Stratum	

4	<u> </u>		Percent of Dominant Species
Total Cover:			That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum			Prevalence Index worksheet:
1	·		Total % Cover of: Multiply by:
2			
3			OBL species x 1 =
4			FACW species x 2 =
5.			FAC species x 3 =
Total Cover:	<u> </u>		FACU species $5 \times 4 = 20$
Herb Stratum			UPL species $17.12 \times 5 = 8.560$
1. Erodium clautarium	10 1		Column Totals: 17 (A) 580 (B)
2. Salsola treaus	<u> </u>	ALCFA	(U) there
3. Amnsinchia Pessellata	1 <u>N</u>	HENL	Prevalence index = B/A = 4.74
1. Brownes tectorium		-Ut All	Hydrophytic Vegetation Indicators: 4.71
5 (= 5. Kali)	·····	(FACUT)	Dominance Test is >50%
	<u> </u>	(FACY)	Prevalence Index is ≤3.0 ¹
6. OB= S. pestiter)			Morphological Adaptations ¹ (Provide supporting
7			data In Remarks or on a separate sheet)
8			Problematic Hydrophytic Vegetation ¹ (Explain)
Total Cover:	17		
Woody Vine Stratum			¹ Indicators of hydric soil and wetland hydrology must
1		<u> </u>	be present.
2		······	
Total Cover:	_Ø		Hydrophytic Vegetation
% Bare Ground in Herb Stratum <u>63</u> % Cover	of Blotic Crust _	<u> </u>	Present? Yes <u>No</u>
Remarks:			

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Э	U	11

ς.

Sampling Point: 61-4

Profile Description: (Describe to the depth r Depth Matrix	Redox Features		Remarks
(inches) Color (moist) %	Color (moist) % Type1 L		
14 10 YR \$		Loamy silt _	· · · · · · · · · · · · · · · · · · ·
		<u></u>	
·····			
······································			
Type: C=Concentration, D=Depletion, RM=Re	duced Matrix. ² Location: PL=Pore Li	ning, RC=Root Channel, Indicators fo	Problematic Hydric Soils ³ :
Hydric Soil Indicators: (Applicable to all LR			k (A9) (LRR C)
Histosol (A1)	Sandy Redox (S5) Stripped Matrix (S6)		k (A10) (LRR B)
<ul> <li>Histic Epipedon (A2)</li> <li>Black Histic (A3)</li> </ul>	Loamy Mucky Mineral (F1)	Reducad	Vertic (F18)
Black Histic (A3) Hydrogen Sulfide (A4)	Loamy Gieyed Matrix (F2)		nt Material (TF2)
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3)	Other (E)	plain in Remarks)
1 cm Muck (A9) (LRR D)	Redox Dark Surface (F6)		
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)		
Thick Dark Surface (A12)	Redox Depressions (F8)	³ indicators of	hydrophytic vegetation and
_ Sandy Mucky Mineral (S1) _ Sandy Gleyed Matrix (S4)	Vernal Pools (F9)		drology must be present.
estrictive Layer (if present):			
ivne'			
Type:		Hydric Soil Pi	esent? Yes No
Depth (inches):		Hydric Soil Pi	esent? Yes No
Depth (inches):emarks:		Hydric Soit Pr	esent? Yes No
Depth (inches):			esent? Yes No
Depth (inches):		Second	
Depth (inches):	nt)	<u>Secondi</u> Wa Sec	ary Indicators (2 or more required) ier Marks (B1) (Riverine) liment Deposits (B2) (Riverine)
Depth (inches):		Secondi Wa Sec Drif	ary Indicators (2 or more required) ter Marks (B1) (Riverine) liment Deposits (B2) (Riverine) t Deposits (B3) (Riverine)
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Depth (inches):	nt) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Llv Presence of Reduced Iron (C4) Recent Iron Reduction In Piowed Other (Explain in Remarks) Depth (inches): Depth (inches):	Seconda Wa Sec Drif Dra Dry ing Roots (C3) Thi Cra Soils (C6) Sat Sha FA	ary Indicators (2 or more required) ter Marks (B1) (Riverine) liment Deposits (B2) (Riverine) t Deposits (B3) (Riverine) inage Patterns (B10) -Season Water Table (C2) in Muck Surface (C7) yfish Burrows (C8) uration Visible on Aerial imagery ( allow Aquitard (D3) C-Neutral Test (D5)
Depth (inches):	nt) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Llv Presence of Reduced Iron (C4) Recent Iron Reduction In Piowed Other (Explain in Remarks) Depth (inches): Depth (inches):	Seconda Wa Sec Drif Dra Dry ing Roots (C3) Thi Cra Soils (C6) Sat Sha FA	ary Indicators (2 or more required) ter Marks (B1) (Riverine) liment Deposits (B2) (Riverine) t Deposits (B3) (Riverine) inage Patterns (B10) -Season Water Table (C2) in Muck Surface (C7) yfish Burrows (C8) uration Visible on Aerial imagery ( allow Aquitard (D3) C-Neutral Test (D5)
Depth (inches):	nt) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Llv Presence of Reduced Iron (C4) Recent Iron Reduction In Piowed Other (Explain in Remarks) Depth (inches): Depth (inches):	Seconda Wa Sec Drif Dra Dry ing Roots (C3) Thi Cra Soils (C6) Sat Sha FA	ary Indicators (2 or more required) ter Marks (B1) (Riverine) liment Deposits (B2) (Riverine) t Deposits (B3) (Riverine) inage Patterns (B10) -Season Water Table (C2) in Muck Surface (C7) yfish Burrows (C8) uration Visible on Aerial imagery ( allow Aquitard (D3) C-Neutral Test (D5)
Depth (inches):	nt) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Llv Presence of Reduced Iron (C4) Recent Iron Reduction In Piowed Other (Explain in Remarks) Depth (inches): Depth (inches):	Seconda Wa Sec Drif Dra Dry ing Roots (C3) Thi Cra Soils (C6) Sat Sha FA	ary Indicators (2 or more required) ter Marks (B1) (Riverine) liment Deposits (B2) (Riverine) t Deposits (B3) (Riverine) inage Patterns (B10) -Season Water Table (C2) in Muck Surface (C7) yfish Burrows (C8) uration Visible on Aerial imagery ( allow Aquitard (D3) C-Neutral Test (D5)

Project/Site: DSX	City/County: San Renaudive Sampling Date: 3/14/08
	State: <u>/ A</u> Sampling Point: <u>615</u>
Applicant/Owner: Circle Pourt	
Investigator(s): <u>54</u> , 50	_ Section, Township, Range:
Landform (hillslope, terrace, etc.): Valley Floo	_ Local relief (concave, convex, none): Slope (%): 22
Subregion (LRR): D	1-115.731949 Long: N 35.424311 Datum: NAD 83
Soil Map Unit Name: N/A	NWI classification: N/As ZOVE 11
Are climatic / hydrologic conditions on the site typical for this time of	year? Yes Vo (If no, explain in Remarks.)
Are Vegetation 10, Soll , or Hydrology significant	ly disturbed? Are "Normal Circumstances" present? Yes 1/2 No
Are Vegetation No, Soll or Hydrology > naturally p	roblematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes No Yes No Yes No	Is the Sampled Area . within a Wetland?	Yes No
Remarks:		OHWA 14-11 H-3" S-3:1	Photos \$865 : N 8866 : S

#### VEGETATION

and the second sec

Tree Stratum (Use scientific names.) <u>% Cover</u> Species? Status Number of Dominant Species	
1, That Are OBL, FACW, or FAC:	(A)
	(8)
	_/
4 Percent of Dominant Species	( 4 ( 7 )
Total Cover: That Are OBL, FACW, or FAC:	(A/B)
Sapling/Shrub Stratum Prevalence Index worksheet:	<u></u>
1 Total % Cover of:Multiply	but
3, OBL species x 1 =	
4 FACW species x 2 =	
5.      FAC species     X3 =       5.      FAC species     X3 =       5.      FAC species     X3 =	
Total Cover: $\cancel{3}$ FACU species $\cancel{3}$ x 4 = $\cancel{2}$	0
Herb Stratum UPL species $127 \times 5 = bt$	<u>í 35</u>
1,-Sal Sala travers 5 4 otto Column Totals: 12 (A)	
$L_{a}$ $L_{b}$ $L_{b$	4.20
(3. MAWA STORAGE - SECURIE	
4. ) (= S. Kali  (FACU) Hydrophytic Vegetation indicators: $(FACU) = Dominance Test is >50%$	
4. $51 = 5.$ $50\%$ 5. $0R = 5.$ $pestifer)$ (FACU) Dominance Test is >50% Prevalence Index is <3.0 ¹	
	upporting
7 Morphological Adaptations' (Provide data in Remarks or on a separate	
8. Destalandia Hudrophytic Voreitation	•
Total Cover: 12	(CAPIAILY
Woody Vine Stratum	
Indicators of hydric soil and wetland hydric	ology must
2 be present.	
Total Cover: Hydrophytic	
/ vegetation	
% Bare Ground in Herb Stratum     34     % Cover of Biotic Crust     A     Present?     Yes     No	
Remarks:	
1	

	confirm the absence of indicators.)
ofile Description: (Describe to the depth needed to document the indicator or o	
epth <u>Matrix Redox Features</u>	oc ² Texture Remarks
	situ por
6 10 YR 4/3	
ype: C=Concentration, D=Depletion, RM=Reduced Matrix. ² Location: PL=Pore L	ining, RC=Root Channel, M=Matrix. Indicators for Problematic Hydric Soils ³ :
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	
Historol (A1) Sandy Redox (S5)	1 cm Muck (A9) (LRR C) 2 cm Muck (A10) (LRR B)
Listic Epipedon (A2) Stripped Matrix (S6)	2 cm Moder (A10) (E100 D) Reduced Vertic (F18)
Disaly Mineral (FT)	Red Parent Material (TF2)
Hydrogen Sulfide (A4) Loamy Gieyed Matrix (F2)	Other (Explain in Remarks)
Stratified Layers (A5) (LRR C) Depleted Matrix (F3)	
	³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1) Vernal Pools (F9) Sandy Gleyed Matrix (S4)	wetland hydrology must be present.
testrictive Layer (if present):	
	Hydric Soll Present? Yes No
Depth (inches):	Hydric Soll Present? Yes No
	Hydric Soll Present? Yes No
Depth (inches):	Hydric Soil Present? Yes No
Depth (inches):	Hydric Soll Present? Yes No
Depth (inches):	Hydric Soil Present? Yes No
Depth (inches):	
Depth (inches):	Secondary Indicators (2 or more required)
Depth (inches):	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine)
Depth (inches):	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine)
Depth (inches):	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine)
Depth (inches):	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10)
Depth (inches):	Secondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2)
Depth (inches):	Secondary indicators (2 or more required)         Water Marks (B1) (Riverine)         Sediment Deposits (B2) (Riverine)         Drift Deposits (B3) (Riverine)         Drainage Patterns (B10)         Dry-Season Water Table (C2)         iving Roots (C3)
Depth (inches):	Secondary Indicators (2 or more required)
Depth (inches):	Secondary indicators (2 or more required)
Depth (inches):	Secondary Indicators (2 or more required)
Depth (inches):	Secondary indicators (2 or more required)
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Depth (inches):	Secondary Indicators (2 or more required)
Depth (inches):	Secondary Indicators (2 or more required)
Depth (inches):	Secondary Indicators (2 or more required)
Depth (inches):	Secondary Indicators (2 or more required)

DHWM. I'CL. LD, discreet/contined F-1.1-133

WETLAND DETERMIN				
roject/Site: <u>75</u> X	City/Count	- ban	Bernendaries Sampling Date: 3/	14108
	Gity/County	·	State: Sampling Point:	- 6
Applicant/Owner: Circle Point				
Investigator(s): <u>5. Holson</u> , <u>5. Julia Lbolt</u>	Section, To	wnsnip, Kan	ge:	20/
Landform (hillslope, terrace, etc.): $\frac{1}{\sqrt{\alpha  k_0 }} \frac{F}{10\Gamma}$	Local relie	f (concave, c	onvex, none): <u>COMPORT</u> Stope (	%): <u>) //5</u>
Subregion (LRR): D	: <u>W-115,73</u>	26231	Tong: 10 Spit 20101 Datum: 1	<u> </u>
Soil Map Unit Name: NA			NWI classification: <u>LJ/A</u>	<u>zone i</u> /
Are climatic / hydrologic conditions on the site typical for this time	of year? Yes	<u></u> No	(If no, explain in Remarks.)	
Are Vegetation No, Soil , or Hydrology signific	antly disturbed?	Are "	Normal Circumstances" present? Yes/	. No
Are Vegetation No, Soil , or Hydrology natural			eded, explain any answers in Remarks.)	
SUMMARY OF FINDINGS - Attach site map show		a point la	cations, transects, important featu	ires, etc.
SUMMARY OF FINDINGS - Attach site map show	ving sampin	ig point io		
Hydrophytic Vegetation Present? Yes No		he Sampled	Area	
Hydric Soil Present? Yes No 🗸		he Gampica hin a Wetlan		ļ
Wetland Hydrology Present? Yes No				
Remarks:	OHW	M W-1	Photos 8867!	S
	0 11 1	H . 3		
		5-3	1	
		-100		
VEGETATION			Dominance Test worksheet:	
	olute Dominan Cover <u>Species</u>	t Indicator Status	Number of Dominant Species	
			That Are OBL, FACW, or FAC:	(A)
2			Total Number of Dominant	
3			Species Across All Strata;	(B)
4			/	
Total Cover:	<u>K</u>		Percent of Dominant Species	(A/B)
Sapling/Shrub Stratum			Prevalence Index worksheet:	
1		<u> </u>		
2	<u> </u>		<u>Total % Cover of:</u> <u>Multiply by</u> OBL species x 1 =	
3	<u> </u>		OBL species         x 1 =           FACW species         x 2 =	
4,			FAC species x3 =	
5	<u> </u>	<u> </u>	FACU species x 4 =	
······	<u>7.'</u>		UPL species $52$ $x5 = 263$	5
Herb Stratum 1. Ernding (icataring) 4	- V	HENL	Column Totals: $52$ (A) $26c$	2 (B)
		WENL		······ (9)
2. Anneinction trenden	2 1	HPLNL	Prevalence Index = B/A =5	
			Hydrophytic Vegetation Indicators:	
4			Dominance Test is >50%	
5			Prevalence index is ≤3.0 ¹	
6	· · · · · · · · · · · · · · · · · · ·		Morphological Adaptations ¹ (Provide su	pporting
7	. <u></u>		data in Remarks or on a separate sh	ieet)
BTotal Cover:			Problematic Hydrophytic Vegetation ¹ (E	xplain)
Woody Vine Stratum				
1		······································	¹ Indicators of hydric soil and wetland hydrold be present.	ogy must
2	<u> </u>			
Total Cover:	<u>ð                                    </u>		Hydrophytic Vegetation	/
8 Bare Ground in Herb Stratum % Cover of B	<u>_</u>	<u>s                                    </u>	Present? Yes No	
Remarks;			l	

SOIL

Death Matrix	needed to document the indicator or con Redox Features	
Color (moist) %	Color (moist) % Type ¹ Loc	
16 104R 4/2		<u>Sand_groue</u>
		· · · · · · · · · · · · · · · · · · ·
·		
Type: C=Concentration, D=Depletion, RM=	Reduced Matrix. ² Location: PL=Pore Lini	Ing, RC=Root Channel, M=Matrix. Indicators for Problematic Hydric Soils ³ :
ydric Soil Indicators: (Applicable to all L	.RRs, unless otherwise noted.)	
Histosol (A1)	Sandy Redox (Sp)	1 cm Muck (A9) (LRR C) 2 cm Muck (A10) (LRR B)
Histic Epipedon (A2)	Stripped Matrix (S6)	Reduced Vertic (F18)
Black Histic (A3)	Loamy Mucky Mineral (F1)	Red Parent Material (TF2)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3) Redox Dark Surface (F6)	—
1 cm Muck (A9) (LRR D)	Depleted Dark Surface (F7)	
Depleted Below Dark Surface (A11)	Redox Depressions (F6)	
Thick Dark Surface (A12) Sandy Mucky Mineral (S1)	Vernal Pools (F9)	³ Indicators of hydrophytic vegetation and
Sandy Gleyed Matrix (S4)		wetland hydrology must be present.
Restrictive Layer (if present):		1
Type:		Under Soil Present? Yes No
Depth (inches):		Hydric Soil Present? Yes No/
Remarks:		
YDROLOGY		Secondary Indicators (2 or more required)
Wetland Hydrology Indicators:		Secondary Indicators (2 or more required) Water Marks (B1) (Riverine)
Wetland Hydrology Indicators:	iclent)	Water Marks (B1) (Riverine)
Wetland Hydrology Indicators:	Sait Crust (811)	Water Marks (B1) (Riverine)
Wetland Hydrology Indicators: Primary Indicators (any one indicator is suffi Surface Water (A1)	Sait Crust (811) Blotic Crust (B12)	Water Marks (B1) (Riverine)
Wetland Hydrology Indicators: <u>Primary Indicators (any one indicator is suffi</u> Surface Water (A1) High Water Table (A2) Saturation (A3)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10)
Wetland Hydrology Indicators: Primary Indicators (any one indicator is suffi Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2)
Wetland Hydrology Indicators: Primary Indicators (any one indicator is suffi Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine)	<ul> <li>Salt Crust (B11)</li> <li>Blotic Crust (B12)</li> <li>Aquatic Invertebrates (B13)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres along Livit</li> </ul>	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7)
Wetland Hydrology Indicators: Primary Indicators (any one indicator is suffi Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine)	Salt Crust (B11)     Biotic Crust (B12)     Aquatic Invertebrates (B13)     Hydrogen Sulfide Odor (C1)     Oxidized Rhizospheres along Liv     Presence of Reduced Iron (C4)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8)
Wetland Hydrology Indicators: Primary Indicators (any one indicator is suffi Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6)	<ul> <li>Salt Crust (B11)</li> <li>Biotic Crust (B12)</li> <li>Aquatic Invertebrates (B13)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres along Livi</li> <li>Presence of Reduced Iron (C4)</li> <li>Recent Iron Reduction in Plowed</li> </ul>	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8)
Wetland Hydrology Indicators: Primary Indicators (any one indicator is suffi Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Houndation Visible on Aerial Imagery (B	<ul> <li>Salt Crust (B11)</li> <li>Biotic Crust (B12)</li> <li>Aquatic Invertebrates (B13)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres along Livi</li> <li>Presence of Reduced Iron (C4)</li> <li>Recent Iron Reduction in Plowed</li> </ul>	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Soils (C6) Saturation Visible on Aerial Imagery (C
Wetland Hydrology Indicators: Primary Indicators (any one indicator is suffi Surface Water (A1) High Water Tabie (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (E Water-Stained Leaves (B9)	<ul> <li>Salt Crust (B11)</li> <li>Biotic Crust (B12)</li> <li>Aquatic Invertebrates (B13)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres along Livi</li> <li>Presence of Reduced Iron (C4)</li> <li>Recent Iron Reduction in Plowed</li> </ul>	Water Marks (B1) (Riverine)     Sediment Deposits (B2) (Riverine)     Drift Deposits (B3) (Riverine)     Drainage Patterns (B10)     Dry-Season Water Table (C2)     Thin Muck Surface (C7)     Crayfish Burrows (C8)     Soils (C6)     Saturation Visible on Aerial Imagery (C     Shallow Aquitard (D3)
Wetland Hydrology Indicators: Primary Indicators (any one indicator is suffi Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Hnundation Visible on Aerial Imagery (B Water-Stained Leaves (B9) Field Observations:	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Other (Explain in Remarks)	Water Marks (B1) (Riverine)     Sediment Deposits (B2) (Riverine)     Drift Deposits (B3) (Riverine)     Drainage Patterns (B10)     Dry-Season Water Table (C2)     Thin Muck Surface (C7)     Crayfish Burrows (C8)     Soils (C6)     Saturation Visible on Aerial Imagery (C     Shallow Aquitard (D3)
Wetland Hydrology Indicators:         Primary Indicators (any one indicator is suffigured)         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1) (Nonriverine)         Sediment Deposits (B2) (Nonriverine)         Drift Deposits (B3) (Nonriverine)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Imagery (E         Water-Stained Leaves (B9)         Field Observations:         Surface Water Present?	<ul> <li>Salt Crust (B11)</li> <li>Biotic Crust (B12)</li> <li>Aquatic Invertebrates (B13)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres along Liv</li> <li>Presence of Reduced Iron (C4)</li> <li>Recent Iron Reduction in Plowed</li> <li>Other (Explain in Remarks)</li> </ul>	Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Thin Muck Surface (C7)  Crayfish Burrows (C8)  Soils (C6) Saturation Visible on Aerial Imagery (C Shallow Aquitard (D3)  FAC-Neutral Test (D5)
Wetland Hydrology Indicators:         Primary Indicators (any one indicator is suffigure)         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1) (Nonriverine)         Sediment Deposits (B2) (Nonriverine)         Drift Deposits (B3) (Nonriverine)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Imagery (E         Water-Stained Leaves (B9)         Field Observations:         Surface Water Present?         Yes	<ul> <li>Salt Crust (B11)</li> <li>Biotic Crust (B12)</li> <li>Aquatic Invertebrates (B13)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres along Livity</li> <li>Presence of Reduced Iron (C4)</li> <li>Recent Iron Reduction in Plowed</li> <li>Other (Explain in Remarks)</li> </ul> NoDepth (inches):	<ul> <li>Water Marks (B1) (Riverine)</li> <li>Sediment Deposits (B2) (Riverine)</li> <li>Drift Deposits (B3) (Riverine)</li> <li>Drainage Patterns (B10)</li> <li>Dry-Season Water Table (C2)</li> <li>Thin Muck Surface (C7)</li> <li>Crayfish Burrows (C8)</li> <li>Soils (C6)</li> <li>Saturation Visible on Aerial Imagery (C</li> <li>Shallow Aquitard (D3)</li> <li>FAC-Neutral Test (D5)</li> </ul>
Wetland Hydrology Indicators:         Primary Indicators (any one indicator is suffigured)         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1) (Nonriverine)         Sediment Deposits (B2) (Nonriverine)         Drift Deposits (B3) (Nonriverine)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Imagery (B         Water-Stained Leaves (B9)         Field Observations:         Surface Water Present?         Yes         Saturation Present?	<ul> <li>Salt Crust (B11)</li> <li>Biotic Crust (B12)</li> <li>Aquatic Invertebrates (B13)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres along Liv</li> <li>Presence of Reduced Iron (C4)</li> <li>Recent Iron Reduction in Plowed</li> <li>Other (Explain in Remarks)</li> </ul> No Depth (inches):	Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Thin Muck Surface (C7)  Crayfish Burrows (C8)  Soils (C6) Saturation Visible on Aerial Imagery (C Shallow Aquitard (D3) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No
High Water Table (A2)         Saturation (A3)         Water Marks (B1) (Nonriverine)         Sediment Deposits (B2) (Nonriverine)         Drift Deposits (B3) (Nonriverine)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Imagery (B         Water-Stained Leaves (B9)         Field Observations:         Surface Water Present?         Yes         Saturation Present?         Yes	<ul> <li>Salt Crust (B11)</li> <li>Biotic Crust (B12)</li> <li>Aquatic Invertebrates (B13)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres along Liv</li> <li>Presence of Reduced Iron (C4)</li> <li>Recent Iron Reduction in Plowed</li> <li>Other (Explain in Remarks)</li> </ul> No Depth (inches):	Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Thin Muck Surface (C7)  Crayfish Burrows (C8)  Soils (C6) Saturation Visible on Aerial Imagery (C Shallow Aquitard (D3) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No
Wetland Hydrology Indicators:         Primary Indicators (any one indicator is suffigured)         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1) (Nonriverine)         Sediment Deposits (B2) (Nonriverine)         Drift Deposits (B3) (Nonriverine)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Imagery (B         Water-Stained Leaves (B9)         Field Observations:         Surface Water Present?         Yes         Saturation Present?	<ul> <li>Salt Crust (B11)</li> <li>Biotic Crust (B12)</li> <li>Aquatic Invertebrates (B13)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres along Livity</li> <li>Presence of Reduced Iron (C4)</li> <li>Recent Iron Reduction in Plowed</li> <li>Other (Explain in Remarks)</li> </ul> NoDepth (inches):	Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Thin Muck Surface (C7)  Crayfish Burrows (C8)  Soils (C6) Saturation Visible on Aerial Imagery (C Shallow Aquitard (D3) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No
Wetland Hydrology Indicators:         Primary Indicators (any one indicator is suffigured)         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1) (Nonriverine)         Sediment Deposits (B2) (Nonriverine)         Drift Deposits (B3) (Nonriverine)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Imagery (B         Water-Stained Leaves (B9)         Field Observations:         Surface Water Present?       Yes	<ul> <li>Salt Crust (B11)</li> <li>Biotic Crust (B12)</li> <li>Aquatic Invertebrates (B13)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres along Liv</li> <li>Presence of Reduced Iron (C4)</li> <li>Recent Iron Reduction in Plowed</li> <li>Other (Explain in Remarks)</li> </ul> No Depth (inches):	Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Thin Muck Surface (C7)  Crayfish Burrows (C8)  Soils (C6) Saturation Visible on Aerial Imagery (C Shallow Aquitard (D3) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No
Wetland Hydrology Indicators:         Primary Indicators (any one indicator is suffile         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1) (Nonriverine)         Sediment Deposits (B2) (Nonriverine)         Drift Deposits (B3) (Nonriverine)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Imagery (B         Water-Stained Leaves (B9)         Field Observations:         Surface Water Present?         Yes         Saturation Present?	<ul> <li>Salt Crust (B11)</li> <li>Biotic Crust (B12)</li> <li>Aquatic Invertebrates (B13)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres along Liv</li> <li>Presence of Reduced Iron (C4)</li> <li>Recent Iron Reduction in Plowed</li> <li>Other (Explain in Remarks)</li> </ul> No Depth (inches):	Water Marks (B1) (Riverine)  Vestime to Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Soils (C6) Saturation Visible on Aerial Imagery (C Shallow Aquitard (D3) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No
Wetland Hydrology Indicators:         Primary Indicators (any one indicator is suffi	<ul> <li>Salt Crust (B11)</li> <li>Biotic Crust (B12)</li> <li>Aquatic Invertebrates (B13)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres along Liv</li> <li>Presence of Reduced Iron (C4)</li> <li>Recent Iron Reduction in Plowed</li> <li>Other (Explain in Remarks)</li> </ul> No Depth (inches):	Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Thin Muck Surface (C7)  Crayfish Burrows (C8)  Soils (C6) Saturation Visible on Aerial Imagery (C Shallow Aquitard (D3) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No
Wetland Hydrology Indicators: Primary Indicators (any one indicator is suffi Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (E Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge, IT	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Other (Explain in Remarks) NoDepth (inches): NoDepth (inches): NoDepth (inches): nonitoring well, aerial photos, previous Inspectively and the second s	Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Thin Muck Surface (C7)  Crayfish Burrows (C8)  Soils (C6) Saturation Visible on Aerial Imagery (C Shallow Aquitard (D3) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No

transferration without the strain of the second second second second second second second second second second

		Burnen ding Sampling Date: 3/19/08
	City/County: <u> 2413-4</u>	
Applicant/Owner: Circle Print		
Investigator(s):	Section, Township, Rar	nge:
Landform (hillslope, terrace, etc.): Valla, Flou(	Local relief (concave, c	CORVEX, NONE): <u>Para ana</u> Siope (%): <u>Para</u>
		-beng: N 35,43,498 Datum: NAD 83 NWI classification: NA 20NG /
Soil Map Unit Name: DA	/	
Are climatic / hydrologic conditions on the site typical for this time of year		(If no, explain in Remarks.)
Are Vegetation NO, Soil, or Hydrology significantly		Normal Circumstances" present? Yes / No
Are Vegetation, Solf, or Hydrology naturally pro	biematic? (If ne	eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	sampling point lo	ocations, transects, important features, etc.
Hydrophytic Vegetation Present?       Yes No         Hydric Soil Present?       Yes No         Wetland Hydrology Present?       Yes No	Is the Sampled within a Wetlan	
Remarks:	OHWM 4-8	1 186511N . Photos
	k-1	
	5-	31
VEGETATION		
Absolute	Dominant Indicator	Dominance Test worksheet:
	Species? Status	Number of Dominant Species (A)
2	······································	/ Total Number of Dominant
3		Species Across All Strata: (B)
4		Percent of Dominant Species Au 1/2%
Total Cover:		That Are OBL, FACW, or FAC: 40 16.7 (Å/B)
<u>Sapling/Shrub Stratum</u> 1. Humen Oclea 50/50/a 8	2 all MIL	Prevalence index worksheet:
2. Ericamento lavicifolia 4		Total % Cover of: Multiply by:
3Bachadis Savin Haveides 10	Y Web	OBL species x 1 =
Space of States Save In PSIGES	FAC	FACW species x 2 ≍
		FAC species x 3 =
Total Cover: <u>22</u>		FACU species x 4 =
Herb Stratum		UPL species 474 40 x5 = -210 160
1. Brownic tertorum 10	Y HENL	Column Totals: <u>42</u> (A) <u>240,90</u> (B)
2. Remains madritensis ssp. labers 4	Y JPINL	Prevalence Index = B/A = 5 4.50
3. Erodium cicutarium 6	Y UPLNG	Hydrophytic Vegetation Indicators:
4		Dominance Test is >50%
5		Prevalence Index is \$3.0 ¹
6		Morphological Adaptations ¹ (Provide supporting
		data in Remarks or on a separate sheet)
8 Total Cover: _2	bitter	Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum	•	
1		¹ Indicators of hydric soil and wetland hydrology must be present.
2		
Total Cover:	K	Hydrophytic Vegetation
% Bare Ground in Herb Stratum <u>%</u> % Cover of Biotic C	irust	Present? Yes <u>No /</u>
Remarks:		

#### SOIL

### Sampling Point:

nent the indicator or confirm the absence of indicators.) .

Depth (inches)	Matrix Color (moist)	%	Redo Color (moist)	x Feature: %	<u> </u>	Loc ²	Texture	Remarks
	In YR 4/2						Dame Sitt	
19+								
	<i>***</i>							
	<u> </u>	. <u></u>		<u> </u>		<u> </u>		· · · · · · · · · · · · · · · · · · ·
					. <u> </u>	<u></u>		
	· · · · · · · · · · · · · · · · · · ·			_			<u> </u>	······
<u></u>	. <u></u>							
	· · · · · · · · · · · · · · · · · · ·							
	Concentration, D=Dep					e Linina, f	C=Root Channel, M	=Matrix.
Type: C=C	Concentration, D=Dep Indicators: (Applic	able to all I B	Rs. unless othe	rwise not	ed.)	<u> </u>	Indicators for P	roblematic Hydric Soils ³ :
			Sandy Red	ox (S5)	•		1 cm Muck (	
Histoso	pipedon (A2)		Stripped M				2 cm Muck (	
Black H			Loamy Mu	cky Minera			Reduced Ve	ertic (F18)
	en Sulfide (A4)		Loamy Gle	yed Matrix	(F2)		Red Parent	Material (1F2)
Stratifie	ed Layers (A5) (LRR -	C)	Depleted N	latrix (F3)	(50)		Other (Expla	
1 cm M	luck (A9) (LRR D)		Redox Dar	k Surface	(トじ) no (トブ)			
Deplete	ed Below Dark Surfac	e (A11)	Depleted D					
Thick 🛙	Dark Surface (A12)		Vernal Poo		(10)		³ Indicators of hy	drophytic vegetation and
	Mucky Mineral (S1)			13 (1 0)			wetland hydro	ology must be present.
	Gleyed Matrix (S4) Layer (if present):			<u></u>				
	Cayer (n present)							
	nches):						Hydric Soil Pres	ent? Yes <u>No 1</u> /
Remarks:						·		
						. <u></u>		
IYDROL(		•		<u>.                                    </u>			Secondary	Indicators (2 or more required)
	ydrology Indicators		(tru				Water	Marks (B1) (Riverine)
	<u>licators (any one indi</u>		Salt Crus	t (B11)			Sedim	ent Deposits (B2) (Riverine)
	e Water (A1)		Biotic Cr				Drift D	eposits (B3) (Riverine)
	Vater Table (A2)		Aquatic I		tes (813)	'	Draina	age Patterns (B10)
Satura		rine)	Hydroge				Dry-S	eason Water Table (C2)
water	Marks (B1) (Nonrive ent Deposits (B2) (No	nne) Inriverine)	Oxidized	Rhizosph	eres alon	y Living R	, , <u> </u>	Muck Surface (C7)
Seam	ent Deposits (B2) (Nonrive	erine)	Presence	e of Reduc	ced Iron (C	24)	Crayfi	sh Burrows (C8)
	e Soil Cracks (B6)	/	Recent I	ron Reduc	tion in Pic	wed Solis	· · ·	ation Visible on Aerial imagery (C9
<u>, y</u> . Jounds	ation Visible on Aeria	Imagery (B7)	•••				Shaik	w Aquitard (D3)
	-Stained Leaves (B9)		······				FAC-	Neutral Test (D5)
Field Obs			}		····			
	ater Present?	Yes No	ot∕_ Depth (	inches):	<u></u>			,
	le Present?	Yes No	Depth (	inches): _		1		
		Yes Nr	Depth (	inches):	_ · _	We	etiand Hydrology Pr	esent? Yes <u>V</u> No
Saturation (includes o						1		· · · · · · · · · · · · · · · · · · ·
Describe F	capillary fringe) Recorded Data (strea	m gauge, mon	itoring well, aeria	al photos,	previous i	nspection	i avaliabie.	
Remarks:								
								>
	,			er 1	main la	crock Si	n veg win book	(inundation)
ALLIN	M I: Conf	40 01	ور جر	ン <u>レ デ</u> -1.4	r-137'' (. 		prolongeo	r receiver and
() () ()							الأهرية بالتنا المتعاد المتع	

			6.	Burnardius	Sampling [	Date: 3/14/08
10]000 01001	C	htty/County:	<u>/µ.1/1</u>	State:	Sampling F	Point: 62-8
Applicant/Owner: Circle Point				State:		<u> </u>
Investigator(s): 5. Holson. J. Windbalk	*	Secuon, Yow	/iship, Kan	onvex, none): <u>70%</u>	COLLE	Slope (%): 2. 18
Landform (hillslope, terrace, etc.): Voltar Flor(	 		2011Caye, 0	Long: 1/ 35,43	1849	Datum: NAD 83
	<u></u>	-115.70	/ /	LUNG. Class	ification:12/15	ZONE
Soil Map Unit Name: <u>NA</u>	<u> </u>		1		1	
Are climatic / hydrologic conditions on the site typical for	this time of yea	Ir? Yes	<u>N</u> NO	wormal Circumstances		es No
Are Vegetation 1, 0, Soil, or Hydrology		listurbed?		eded, explain any ansi		
Are Vegetation No, Soil, or Hydrology 🥕	naturally prot	piematic?	-			
SUMMARY OF FINDINGS – Attach site ma	ap showing	sampling	g point lo	cations, transec	ts, importa	int teatures, etc.
Hydrophytic Vegetation Present?       Yes         Hydric Soil Present?       Yes         Wetland Hydrology Present?       Yes         Remarks:       Yes	No No No	{			No   9753, ~	
			1	.: 3:1 .: 3:1	8853-	- Genth
VEGETATION			1-41-4-5	Dominance Test we	orksheet:	
Tree Stratum (Use scientific names.)	-	Dominant Species?	Status	Number of Dominan That Are OBL, FAC	t Species	(A)
23.				Total Number of Do Species Across All S		З (В)
4Total C	cover:			Percent of Dominan That Are OBL, FAC	t Species N, or FAC:	4-33." (A/B)
Sapling/Shrub Stratum	4	7	FAC	Prevalence Index v	vorksheet:	
1. <u>Bachavis</u> sorrythraides	<u> </u>	4	SFE NL			Multiply by:
2. <u>Ericamenia laricitalia</u> 3. Atrialar Carescens	2	Ň	JAL FA	COBL species		
4. Hymenodea salsola	Ź	<u>N</u>	THE ML		<b>2</b> 7	13 4
-		. <u></u>	<u> </u>	FAC species	<u> </u>	
Total C	over: <u>ZO</u>	-		FACU species	<u>2</u> x4	
Herb Stratum	-	$\checkmark$	Jet: NI		47 (A)	210192 (B)
1. Eradium cicatorium		<u> </u>	1994 NG			
2. Schismus Varbatins			<u>vie</u>	Prevalence In	dex = B/A = ,	\$4.57
3				Hydrophytic Vege		ors:
4	········			Dominance Te	st is >50%	
				Prevalence Ind	ex is ≤3.0 ¹	
6				Morphological	Adaptations ¹ (	Provide supporting
8			. <u></u>	Problematic Hy		
Total C	Cover: <u>11</u>				diopingao rog	
Woody Vine Stratum 1		_ <u></u>		¹ Indicators of hydribe present.	soil and wet	and hydrology must
2				Hydrophytic	New	
	Cover: Cover of Biotic (			Vegetation Present?	Yes	No
Remarks:						

|--|

	Cod
Sampling Point:	(bg.0

<b>b b</b> = 4 - 5 - 5	h needed to document the indicator or c Redox Features	oc ² Texture Remarks
(inches) Color (moist) %	Color (moist) % Type1 L	
14 1016	<u> </u>	Sandy-brand
·		
¹ Type: C=Concentration, D=Depletion, RM=	=Reduced Matrix. ² Location: PL=Pore L	Indicators for Problematic Hydric Soils
Type: C=Concentration, D=Depletion, NM- Hydric Soil Indicators: (Applicable to all		1 cm Muck (A9) (LRR C)
Histosol (A1)	Sandy Redox (55)	2 cm Muck (A10) (LRR B)
Histic Epipedon (A2)	Stripped Matrix (S6)	Reduced Vertic (F18)
Black Histic (A3)	Loamy Mucky Mineral (F1)	Red Parent Material (TF2)
Black Histic (A3) Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3)	
1 cm Muck (A9) (LRR D)	Redox Dark Surface (F6)	
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	
Thick Dark Surface (A12)	Redox Depressions (F8)	³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Vernal Pools (F9)	wetland hydrology must be present.
Sandy Gleyed Matrix (S4)		
Restrictive Layer (if present):		Í
Туре:		Hydric Soll Present? Yes N
Depth (inches): Remarks:		
		Secondary Indicators (2 or more re
Remarks: HYDROLOGY Wetland Hydrology Indicators:		Secondary Indicators (2 or more re Water Marks (B1) (Riverine)
Remarks: HYDROLOGY Wetland Hydrology Indicators:	fficient)	Water Marks (B1) (Riverine)
Remarks: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one Indicator is su	fficient) Salt Crust (B11)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (River
Remarks: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one Indicator is su Surface Water (A1)	fficient) Salt Crust (B11) Biotic Crust (B12)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (River Drift Deposits (B3) (Riverine)
Remarks: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one Indicator is su Surface Water (A1) High Water Table (A2)	fficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (River Drift Deposits (B3) (Riverine) Drainage Patterns (B10)
Remarks: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one Indicator is su Surface Water (A1) High Water Table (A2) Saturation (A3)	fficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (River Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2)
Remarks: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one Indicator is su 	fficient) Salt Crust (B11) Biotic Crust (B12) Aquatic invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along L	Water Marks (B1) (Riverine) Sediment Deposits (B2) (River Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Iving Roots (C3) Thin Muck Surface (C7)
Remarks: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one Indicator is su 	fficient) Salt Crust (B11) Biotic Crust (B12) Aquatic invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along L Presence of Reduced Iron (C4)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (River Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Iving Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C8)
Remarks: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one Indicator is su Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine)	fficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along L Presence of Reduced Iron (C4 Recent Iron Reduction in Plowe	Water Marks (B1) (Riverine) Sediment Deposits (B2) (River Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Iving Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C8) ed Soils (C6) Saturation Visible on Aerial Im
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#### WETLAND DETERMINATION DATA FORM – Arid West Region City/County: <u>San Remar dive</u> Sampling Date: <u>3/14/05</u> Project/Site: ________ CA Sampling Point: _ State: birt Circle Applicant/Owner: ____ Investigator(s): J. Holson, J Windlooff Section, Township, Range: _ Local relief (concave, convex, none): <u>recontrand</u> Slope (%): $\sqrt{?}_{A}$ Landform (hillslope, terrace, etc.): 1/4 104 Flous -ta: W-115,711142 tong: N 35,431750 Datum: NAD 83 Subregion (LRR): NWI classification: UIA 20NE 11 Soil Map Unit Name: WA ___ (if no, explain in Remarks.) Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ V No Are Vegetation _____, Soil _____, or Hydrology ______ significantly disturbed? Are "Normal Circumstances" present? Yes _ No (If needed, explain any answers in Remarks.) Are Vegetation ______, 5011 _____, or Hydrology ______ naturally problematic? SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. No 1 Hydrophytic Vegetation Present? Yes is the Sampled Area No No Yes within a Wetland? Yes Hydric Soil Present? No Yes Wetland Hydrology Present? Photos 1 6855 - Found Jouth OHNA W Remarks: H 3" 8856 invisdictional 531 VEGETATION Dominance Test worksheet: Absolute Dominant indicator <u>% Cover Species? Status</u> Number of Dominant Species Tree Stratum (Use scientific names.) (A) That Are OBL, FACW, or FAC: 1. Total Number of Dominant 2. (B) Species Across All Strata: 3. Percent of Dominant Species 4. _____ (A/B) Total Cover: _____6 That Are OBL, FACW, or FAC: Sapling/Shrub Stratum HPt: N4- Prevalence Index worksheet: 1. LL. Oharles Total % Cover of: Multiply by: GALAL Amarosia duine _____ x1=____ **OBL** species UPTNU Varic Fol 3. Ericomeria x 2 = _____ FACW species OPTNE 4. Enhedra ____x3=____ FAC species 5. ____ x4 = ___ FACU species Total Cover: 7 x5=_65 UPL species Herb Stratum (A) <u>65</u> (B) Column Totals: 1. Schigning 3 2. Erodium cicutaring Prevalence Index = B/A = _ 3. Hydrophytic Vegetation Indicators: 4. ____ Dominance Test is >50% 5. Prevalence Index is ≤3.0¹ 6._____ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 7. Problematic Hydrophytic Vegetation¹ (Explain) 8. Total Cover: Woody Vine Stratum ¹Indicators of hydric soil and wetland hydrology must 1._____ be present. 2. Hydrophytic Total Cover: _____ Vegetation No. Š Present? Yes % Bare Ground in Herb Stratum 94 % Cover of Biotic Crust ______ Remarks: F-I.1-140

DiL rofile Description: (Describe to the	e depth needed to document the indicator or co	onfirm the absence of indicators.)
	Redox Features	nc ² Texture Remarks
Depth <u>Matrix</u> inches) <u>Color (moist)</u>	<u>Redox Features</u> <u>Color (moist) % Type1 Li</u>	Jourdy lower 1
19 10Vr		
······	n, RM=Reduced Matrix. ² Location: PL=Pore L	ining, RC=Root Channel, M=Matrix.
Type: C=Concentration, D=Depletion	n, RM=Reduced Matrix. Location: + E - 24-24 to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
Hydric Soil Indicators: (Applicable	Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
Histosol (A1)	Stripped Matrix (S6)	2 cm Muck (A10) (LRR B) Reduced Vertic (F18)
Histic Epipedon (A2) Black Histic (A3)	Loamy Mucky Mineral (F1)	Red Parent Material (TF2)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3) Redox Dark Surface (F6)	
1 cm Muck (A9) (LRR D)		
Depleted Below Dark Surface (A	Redox Depressions (F8)	3Indicators of hydrophytic vegetation and
Thick Dark Surface (A12) Sandy Mucky Mineral (S1)	Vernal Pools (F9)	wetland hydrology must be present.
Sandy Gleyed Matrix (S4)		
Restrictive Layer (if present):		
Түре:		Hydric Soil Present? Yes No
Depth (inches):		
Remarks:		
Remarks:		(ac more required)
Remarks:		Secondary indicators (2 or more required)
Remarks: IYDROLOGY Wetland Hydrology Indicators:		Water Marks (B1) (Riverine)
Remarks: IYDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicato	pris sufficient)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine)
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## Exhibit B2

#### DesertXpress Field Data For Death Valley-Lower Amargosa Watershed (HUC 18090203)

HBG Watershed Number	HUC 12 Watershed Name	HBG Field Data	ICF Jones & Stokes Field Data	Comments
23	Halloran Summit	Yes	Yes	
24	Rock Tank	Yes	Yes	
25	Pachalka Spring-Kingston Wash	Yes	No	
26	Ord Tank	Yes	Yes	
27	Piute Valley	Yes	Yes	

#### **Huffman-Broadway Group**

### **Field Data Forms**

## For DesertXpress

#### HUC 12 Watershed Pachalka Spring-Kingston Wash

HBG Watershed ID # 25

Within Death Valley-Lower Amargosa Watershed (HUC 18090203)

## **DesertXpress**

## **Field Notebook**

## HBG Watershed ID # ____

Watershed Name: Pachalka Spring-kingston Wash

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	(C) Above OHW	<ol> <li>Desert pavement</li> <li>Rock varnish</li> <li>Clast weathering</li> <li>Salt splitting</li> <li>Salt splitting</li> <li>Carbonate etching</li> <li>Depositional topography</li> <li>Caliche rubble</li> <li>Soil development</li> <li>Surface color/tone</li> <li>Drainage development</li> <li>Surface rounding</li> </ol>		(F) Above OHW	<ol> <li>Annual herbs, xeric ruderals</li> <li>Perennial herbs, non-clonal</li> <li>Perennial herbs, clonal and non-clonal co-dominant</li> <li>Mature pioneer trees, no young trees</li> <li>Mature pioneer trees w/upland species</li> <li>Late-successional species</li> </ol>	<ol> <li>Xeroriparian species</li> <li>Annual herbs, xeric ruderals</li> <li>Perennial herbs, non-clonal</li> <li>Perennial herbs, clonal and non-clonal codominent</li> <li>Mature pioneer trees, no young trees</li> <li>Mature pioneer trees, wiupland species</li> <li>Late-successional species</li> <li>Upland species</li> </ol>	<ul><li>16) Annual herbs, xeric ruderals</li><li>17) Mature pioneer trees w/upland species</li><li>18) Upland species</li></ul>
Potential Geomorphic OHWM Indicators	(B) At OHW	Valley flat Active floodplain Benches: low, mid, most prominent Highest surface of channel bars Top of point bars Break in bank slope Upper limit of sand-sized particles Change in particle size distribution Staining of rocks Exposed root hairs below intact soil layer Sitt deposits Litter (organic debris, larger than twigs)	Potential Vegetation OHWM Indicators	(E) At OHW	<ol> <li>Annual herbs, hydromesic ruderals</li> <li>Perennial herbs, hydromesic clonals</li> <li>Pioneer tree seedlings</li> <li>Pioneer tree saplings</li> </ol>	<ol> <li>Sparse, Iow vegetation Annual herbs, hydromesic</li> <li>Ruderals</li> <li>Perennial herbs, hydromesic clonals</li> <li>Pioneer tree seedlings</li> <li>Pioneer tree saplings</li> <li>Pioneer tree saplings</li> <li>Annual herbs, xeric ruderals</li> </ol>	<ul><li>12) Sparse, low vegetation</li><li>13) Xeroriparian species</li><li>14) Annual herbs, xeric ruderals</li></ul>
	(A) Below OHW	1     1       1     1       1     1       2     3       3     3       3     3       3     3       3     4       4     4       5     5       6     5       5     5       6     5       7     7       7     9       8     9       9     9       10     110       Ind leves     110       11     110       12     110       11     110       11     110       11     110       11     110       11     110       11     110       11     110       11     110       11     110       11     110       11     110       11     110       11     110       11     110       11     110       11     110       11     110       11     110       12     110       13     110       14     110       15     110       16		(D) Below OHW	<ol> <li>Herbaceous marsh species</li> <li>Pioneer tree seedlings</li> <li>Sparse, low vegetation</li> <li>Annual herbs, hydromesic ruderals</li> <li>Perennial herbs, hydromesic clonals</li> </ol>	<ul> <li>6) Pioneer tree seedlings</li> <li>7) Sparse, low vegetation</li> <li>8) Pioneer tree saplings</li> <li>9) Xeroriparian species</li> </ul>	<ul><li>10) Sparse, low vegetation</li><li>11) Xeroriparian species</li><li>12) Annual herbs, xeric ruderals</li></ul>
		<ol> <li>In-stream dunes</li> <li>Crested ripples</li> <li>Crested ripples</li> <li>Crested ripples</li> <li>Flaser bedding</li> <li>Harrow marks</li> <li>Gravel sheets to ripp</li> <li>Gravel sheets to ripp</li> <li>Gravel sheets to ripp</li> <li>Gravel sheets to ripp</li> <li>Muddy point bars</li> <li>Nuddy point bars</li> <li>Long gravel bars</li> <li>Stepped-bed morphc</li> <li>Narrow berms and le</li> <li>Streaming lineations</li> <li>Mick Points</li> </ol>			Hydroriparian indicators	Mesoriparian indicators	Xeroriparian indicators

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GB Team	#357	IES	Project Nan	ne <b>:</b> Deser	tXpress				HBG Sub-Basin # (1 - 41)	25	HUC 12 # 1809021	31704
						(A State	Drainaç	je Data				Comments
Date /i / D / Y)	Time (24-Hour)	GPS Unit #	Sample Point #	Map Sheet Ref #	OHW Width	Inactive (I)	Down (D)	Photo (Y/N)	Below OHWM	At OHWM	Above OHWM	Use note pages at back of notebook for comments. Put comment number in block below.
-14-11	1153	1	25M71	C208	14:3 14:44	R	D	N	A: 6 D: , D	B: 6, 11, 1 & 13	C: F: 17	RTH
			*		0,5		<b>6</b> *		A: 57,6,14	B: 6, 11, 12, 13	C:	NERIFIED Orans to grad Apostplain in Meening
:14-19	1212	1	25m02	C208	33'4"	R	P	N	D: •	E:	F: 18	Weening .
10°10'10	L.	S	2503		D.7:	A	5	4	A:  D: 	<b>Β:</b> _{6,1} 11,12,13 <b>Ε:</b>	C: F:  8	
,D.10		5	2504		0.5	A	D	Ŷ	A: <u> </u> <u> </u> <u> </u> D: <u> </u> 10	^{B:} 6,∥, 12,13 E:	C: F:   {	RTH FIELD VGRIFIGD
			_					<u>, 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 199</u> 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 199	A: D:	B: E:	C: F:	
									A:	B:	C:	
									D: A:	E: B:	F: C:	
									D:	* <b>E:</b>		-

leference: D = Drainage; M = Manmade; MD = Major Drainage; R = River

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## Exhibit B2

#### DesertXpress Field Data For Death Valley-Lower Amargosa Watershed (HUC 18090203)

HBG Watershed Number	HUC 12 Watershed Name	HBG Field Data	ICF Jones & Stokes Field Data	Comments
23	Halloran Summit	Yes	Yes	
24	Rock Tank	Yes	Yes	
25	Pachalka Spring-Kingston Wash	Yes	No	
26	Ord Tank	Yes	Yes	
27	Piute Valley	Yes	Yes	

Huffman-Broadway Group Field Data Forms For DesertXpress

HUC 12 Watershed Ord Tank

HBG Watershed ID # 26

Within Death Valley-Lower Amargosa Watershed (HUC 18090203)

## DesertXpress

## **Field Notebook**

### HBG Watershed ID # _26_

Watershed Name: Ord Tank

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		(B) At OHW	(C) Above OHW
<ol> <li>In-stream dunes</li> <li>Creested ripples</li> <li>Creested ripples</li> <li>Flaser bedding</li> <li>Harrow marks</li> <li>Gravel sheets to rippl</li> <li>Meander bars</li> <li>Meander bars</li> <li>Muddy point bars</li> <li>Long gravel bars</li> <li>Stepped-bed morpho</li> <li>Narrow berms and le</li> <li>Streaming lineations</li> <li>Marrow berms and le</li> <li>Knick Points</li> </ol>	n-stream dunes Crested ripples -laser bedding -larrow marks Gravel sheets to rippled sands Gravel sheets to rippled sands Grand tongues Muddy point bars Cobble bars behind obstructions Cobble bars and levees Streaming lineations Streaming lineations Chirk Points Armored mud balls	Valley flat Active floodplain Benches: low, mid Highest surface of Top of point bars Break in bank slop Upper limit of sanc Change in particle Staining of rocks ) Exposed root hai ) Silt deposits ) Drift (organic det	<ol> <li>Desert pavement</li> <li>Rock varnish</li> <li>Clast weathering</li> <li>Clast weathering</li> <li>Salt splitting</li> <li>Carbonate etching</li> <li>Depositional topography</li> <li>Caliche rubble</li> <li>Depositional topography</li> <li>Caliche rubble</li> <li>Soil development</li> <li>Surface color/tone</li> <li>Drainage development</li> <li>Surface relief</li> <li>Surface rounding</li> </ol>
		Potential Vegetation OHWM Indicators	
	(D) Below OHW	(E) At OHW	(F) Above OHW
Hydroriparian indicators	<ol> <li>Herbaceous marsh species</li> <li>Pioneer tree seedlings</li> <li>Sparse, low vegetation</li> <li>Annual herbs, hydromesic ruderals</li> <li>Perennial herbs, hydromesic clonals</li> </ol>	<ol> <li>Annual herbs, hydromesic ruderals</li> <li>Perennial herbs, hydromesic clonals</li> <li>Pioneer tree seedlings</li> <li>Pioneer tree saplings</li> </ol>	<ol> <li>Annual herbs, xeric ruderals</li> <li>Perennial herbs, non-clonal</li> <li>Perennial herbs, clonal and non-clonal co-dominant</li> <li>Mature pioneer trees, no young trees</li> <li>Mature pioneer trees w/upland species</li> <li>Late-successional species</li> </ol>
Mesoriparian indicators	<ul> <li>Fioneer tree seedlings</li> <li>Z) Sparse, low vegetation</li> <li>B) Pioneer tree saplings</li> <li>y) Xeroriparian species</li> </ul>	<ol> <li>Sparse, Iow vegetation Annual herbs, hydromesic</li> <li>Ruderals</li> <li>Perennial herbs, hydromesic clonals</li> <li>Pioneer tree seedlings</li> <li>Pioneer tree saplings</li> <li>Neroriparian species</li> <li>Annual herbs, xeric ruderals</li> </ol>	<ul> <li>7) Xeroriparian species</li> <li>8) Annual herbs, xeric ruderals</li> <li>9) Perennial herbs, non-clonal</li> <li>10) Perennial herbs, clonal and non-clonal codominent</li> <li>11) Mature pioneer trees, no young trees</li> <li>12) Mature pioneer trees, xeric understory</li> <li>13) Mature pioneer trees w/upland species</li> <li>14) Late-successional species</li> <li>15) Upland species</li> </ul>
Xeroriparian indicators	<ol> <li>Sparse, low vegetation</li> <li>Xeroriparian species</li> <li>Annual herbs, xeric ruderals</li> </ol>	<ul><li>12) Sparse, low vegetation</li><li>13) Xeroriparian species</li><li>14) Annual herbs, xeric ruderals</li></ul>	<ul><li>16) Annual herbs, xeric ruderals</li><li>17) Mature pioneer trees w/upland species</li><li>18) Upland species</li></ul>

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Potential Geomorphic OHWM Indicators

BB Team #	ŧ		Project Nam	ne: Deser	tXpress				HBG Sub-Basin # (1 - 41)	26 - ORD TANK	HUC 12 # 18090202	
							Drainaç	je Data				Comments
Date / D / Y)	Time (24-Hour)	GPS Unit #	Sample Point #	Map Sheet Ref #	OHW Width	or Inactive (I)	Up (U) / or Down (D) Slope from Road	Photo (Y/N)	Below OHWM	At OHWM	Above OHWM	Use note pages at back of notebook for comments. Put comment number in block below.
5/14	1131	. ]	26D1	C208	1.8	A	D -	Z	A: 16	^{B:} 6,11,12,13	C:	Drainage offor Freeway in
	- NO	GPS			1	RECOR			D: 10	E:	F: 18	freeway in concrete-lined structure.
1		,	26MD	C208	16'0"	A	Ţ.		A: 1,7	B:6,11,12,B	C:	Drains to manmade
V	1140		* 1	NO- 69570		Λ	D	N	D: [0	<b>E:</b> ,	F: 18	Manmade floodplain und fwy. J+Ssite.
01			26 MD		16.0		<u> </u>	,	A:	B: 6,11,12,13	C:	REVERIFIGO REPETH
,'V' ¹⁰	_	5	* V.		0.5	A	D	4	D: (ð	E:	F:	FSFR HF
	<u>}</u>		2603		1.6	n n	X	F )	A: 1,7	B: 6,11,12,13	C:	-
0.10.		5		All the second second second	<b>1</b> , D	A	D	Ŷ	D: \b	E:	F: 18	
				The second second second second					<b>A:</b>	B:	C:	-
									D:	E:	F:	
<b></b>									<b>A</b> :	В:	C:	
									D:	E:	F:	
			1	ir Angelering for the first state of the sta					A:	В:	C:	
				an in the second second second					D:	E:	F:	

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eference: D = Drainage; M = Manmade; MD = Major Drainage; R = River

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### **ICF Jones & Stokes**

### Wetland Determination Data Forms – Arid West Region

## For DesertXpress

HUC 12 Watershed Ord Tank

HBG Watershed ID # 26

Within Death Valley-Lower Amargosa Watershed (HUC 18090203)

	ATION DAT	C	Rom 1 R	Sampling Date: 319 102
Project/Site:	City/Coun	y: Jon	State: CA	Sampling Point: $62 - 4$
			01010	
Investigator(s): A Dur drankt, MWiddow So	<u>n</u> Section, T	ownship, Ran	ge:	Cart Slope (%):
Investigator(s): <u>A Dwidnardt</u> , <u>MW12200030</u> Landform (hillslope, terrace, etc.): <u>Valky</u> FJ00/	Local reli	ef (concave, c and the concave, c		Datum: JAD 83
Subregion (LRR):	M - 113.0	12 102 - all		ification: NA ZANE
a state				
time on the site bridge on the site bridge for this time of	of year? Yes _	NO	Normal Circumstances	s" present? Yes No
Are climatic / hydrologic conditions on the site typical for and and a Are Vegetation $N_{\rm eq}$ , Soil $N_{\rm eq}$ , or Hydrology $N_{\rm eq}$ significa	antly disturbed		eded, explain any ans	
Are Vegetation N, Soil N, or Hydrology N naturally	y problematic?			
SUMMARY OF FINDINGS – Attach site map show	ring sampli	ng point io	cations, transec	as, important reatures, etc.
Hydrophytic Vegetation Present? Yes No		the Sampled	Area	,
Hydric Soil Present? Yes No V		thin a Wetlan		No V
Wetland Hydrology Present? Yes V No			HWM46 Ft Phon	tos with description
Remarks: It describes a depressional area in	channel		646 H	O Facing N
Le il i colice viacrons growin of VI	L weeks.	Height Leventh Side		
OHWM indicator's refer to channel.		Slope		
VEGETATION			Dominance Test w	orksheet:
Abso %C	olute Domina over <u>Species</u>	nt Indicator ? <u>Status</u>	Number of Dominan	It Species
Tree Stratum     (Use scientific names.)     % Comparison       1.			That Are OBL, FAC	W, or FAC: (A)
2			Total Number of Do	minant 7, (B)
3	<u> </u>		Species Across All S	
4			Percent of Dominan That Are OBL, FAC	I Species (A/B)
Total Cover:			Prevalence Index v	
1None	<u></u>		Total % Cover	
2				×1≓
3			FACW species	
. 4			FAC species	x 3 =
5 Total Cover:			FACU species	565 x5= 175 325
Herb Stratum	ο γ	WL	Column Totals:	
1. Deschwanta software 2	<u> </u>	TIN	land	
2. Bromus inheris	O N	UPLN		$dex = B/A = \underline{5.00}$
3. Amsulta tesselara	<u>    N</u>	_ topen	Hydrophytic Vege	
5		or FACH	Dominance Te	
6,			Morphological	Adaptations ¹ (Provide supporting
7	<del></del>		-  data in Rerr	harks of on a separate sneet)
8 Total Cover:			Problematic Hy	vdrophytic Vegetation ¹ (Explain)
Woody Vine Stratum			¹ Indicators of bydrid	c soil and wetland hydrology must
1	·		be present.	
2			Hydrophytic	
Total Cover:		5	Vegetation Present?	Yes No
% Bare Ground in Herb Stratum 35 % Cover of Bi	otic Crust			
Remarks:				
	<b>-</b> • • • •	-0		
	F-I.1-1	J.J.		

more considered and a series of considered and a series of a

2011								Sampling Point: 62-4		
SOIL	cription: (Describe t	o the dept	h needed to docum	ent the	indicator	or confirm	n the absence	of indicators.)		
		to the dept	Redox	Feature	S			Remarks		
Depth (inches)	Matrix Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>	<u>Remarks</u>		
	10YR3/3	100					<u> </u>			
	10 YR 4/2	150								
1-2-						_	ls	Moist below Zinde		
<u> </u>	104R-4/12	100 .					( UTENTY	organic component		
4.5	IDYK 412	150					15			
5-6	104R412	100					clay_			
6.7.	101R412	100		. <u> </u>						
2-8	2.57413	100				<u> </u>	Sandy day	pale parent material		
\$-10	IDYR712	IOD					Sandy da.			
$\frac{1}{1}$ Uper C=C	<u> </u>	letion, RM=	Reduced Matrix.	e Lining, I	RC=Root Chanr	nel, M=Matrix. for Problematic Hydric Soils ³ :				
Hydric Soil	Indicators: (Applic	LKKS, unless outer	wise not	ied.)						
Histosc			Sandy Redo	Sandy Redox (S5)				1 cm Muck (A9) (LRR C) 2 cm Muck (A10) (LRR B)		
	pipedon (A2)		Stripped Ma	Stripped Matrix (S6)				ed Vertic (F18)		
	listic (A3)		Loamy Mucl	ky Minera	ai (F1) . (F2)		Red Pi	arent Material (TF2)		
, Hydroa	ien Sulfide (A4)		Loamy Gley					(Explain in Remarks)		
✓ Stratifie	ed Layers (A5) (LRR (	C) NDT J	) Depieted Mi	atr(x (F3)	(50)			( 1		
1 cm M	luck (A9) (LRR D)		Redox Dark		(FU)					
Deplete	ed Below Dark Surfac	e (A11)	Depleted Da		(EQ)					
Thick D	Dark Surface (A12)		Redox Depr	- (E0)	(FO)		³ Indicators	of hydrophytic vegetation and		
	Mucky Mineral (S1)		Vernal Pool	5(19)				I hydrology must be present.		
	Gleyed Matrix (S4)		·		_ <u>`</u>	<u> </u>				
Restrictive	Layer (if present):							1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1		
Туре:							Hydric Soil	Present? Yes No No		
Depth (i	nches):									
Remarks: (	Sedement is	sarted	- stratfier	+ lay	22					
,	·			U U						
l										

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#### HYDROLOGY

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HYDROLOGY	Secondary Indicators (2 or more required)
Wetland Hydrology Indicators:	Water Marks (B1) (Riverine)
Primary indicators (any one indicator is sufficient)	✓       Sediment Deposits (B2) (Riverine)         ↓/       Drift Deposits (B3) (Riverine)          Drainage Patterns (B10)          Dry-Season Water Table (C2)         C3)           Crayfish Burrows (C8)
Water-Stained Leaves (B9)         Field Observations:         Surface Water Present?       YesNo Depth (inches):/O'Ne         Water Table Present?       YesNo Depth (inches):/O         Saturation Present?       YesNo Depth (inches):/D	i Hydrology Present? Yes V No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if a	vailable:
Remarks: Dotra point is a depressional area in wash/cr and to the north of I15. OHIWM Indicators (use ubbreviations): ESF-1,3-154pc sd	eek that ponds underneath

## Exhibit B2

#### DesertXpress Field Data For Death Valley-Lower Amargosa Watershed (HUC 18090203)

HBG Watershed Number	HUC 12 Watershed Name	HBG Field Data	ICF Jones & Stokes Field Data	Comments
23	Halloran Summit	Yes	Yes	
24	Rock Tank	Yes	Yes	
25	Pachalka Spring-Kingston Wash	Yes	No	
26	Ord Tank	Yes	Yes	
27	Piute Valley	Yes	Yes	

**Huffman-Broadway Group** 

#### **Field Data Forms**

## For **DesertXpress**

HUC 12 Watershed Piute Valley

HBG Watershed ID # 27

Within Death Valley-Lower Amargosa Watershed (HUC 18090203)

## DesertXpress

# **Field Notebook**

## HBG Watershed ID # ____

Watershed Name: Piuk Valley

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(C) Above OHW	Desert pavement Rock varnish Clast weathering Salt splitting Carbonate etching Depositional topography Caliche rubble Scaliche rubble Surface color/tone Drainage development Surface relief Surface rounding		(F) Above OHW	Annual herbs, xeric ruderals Perennial herbs, non-clonal Perennial herbs, clonal and non-clonal co-dominant Mature pioneer trees, no young trees Mature pioneer trees w/upland species Late-successional species	Xeroriparian species Annual herbs, xeric ruderals Perennial herbs, non-clonal Perennial herbs, clonal and non-clonal codominent Mature pioneer trees, no young trees Mature pioneer trees, veric understory Mature pioneer trees w/upland species Late-successional species Upland species	Annual herbs, xeric ruderals Mature pioneer trees w/upland species Upland species
	5 5 5 5 5 5 5 5 5 5 5 5 5			<ol> <li>Annua</li> <li>Perer</li> <li>Perer</li> <li>Perer</li> <li>Patur</li> <li>Matur</li> <li>Late-</li> </ol>	<ol> <li>Xeror</li> <li>Annu</li> <li>Perei</li> <li>Perei</li> <li>Perei</li> <li>Natu</li> <li>Matu</li> <li>Matu</li> <li>Matu</li> <li>Uplai</li> </ol>	16) Annu 17) Matu 18) Upla
(B) At OHW	Valley flat Active floodplain Benches: low, mid, most prominent Highest surface of channel bars Top of point bars Break in bank slope Upper limit of sand-sized particles Change in particle size distribution Staining of rocks Exposed root hairs below intact soil layer Silt deposits Litter (organic debris, larger than twigs) Drift (organic debris, larger than twigs)	Potential Vegetation OHWM Indicators	(E) At OHW	<ol> <li>Annual herbs, hydromesic ruderals</li> <li>Perennial herbs, hydromesic clonals</li> <li>Pioneer tree seedlings</li> <li>Pioneer tree saplings</li> </ol>	<ul> <li>5) Sparse, low vegetation Annual herbs, hydromesic</li> <li>6) Ruderals</li> <li>7) Perennial herbs, hydromesic clonals</li> <li>7) Pioneer tree seedlings</li> <li>9) Pioneer tree saplings</li> <li>10) Xeroriparian species</li> <li>11) Annual herbs, xeric ruderals</li> </ul>	<ul><li>12) Sparse, low vegetation</li><li>13) Xeroriparian species</li><li>14) Annual herbs, xeric ruderals</li></ul>
(A) Below OHW	o rippled sands o rippled sands for the sand		(D) Below OHW		<ul> <li>6) Pioneer tree seedlings</li> <li>7) Sparse, low vegetation</li> <li>8) Pioneer tree saplings</li> <li>9) Xeroriparian species</li> </ul>	<ul> <li>10) Sparse, low vegetation</li> <li>11) Xeroriparian species</li> <li>12) Approx backs varie ruderals</li> </ul>
	<ol> <li>In-stream dunes</li> <li>Crested ripples</li> <li>Crested ripples</li> <li>Flaser bedding</li> <li>Harrow marks</li> <li>Gravel sheets to rippled</li> <li>Gravel sheets to rippled</li> <li>Meander bars</li> <li>Meander bars</li> <li>Sand tongues</li> <li>Muddy point bars</li> <li>Long gravel bars</li> <li>Stepped-bed morpholog</li> <li>Narrow berms and levee</li> <li>Streaming lineations</li> <li>Mick Points</li> </ol>			Hydroriparian indicators	Mesoriparian indicators	Xeroriparian indicators

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HGB Team #	HWM F				rtXpress				HBG Sub-Basin # (1 - 41) 2	7-PILTE VALLEY	HUC 12 #	
	<b>t</b> 	and topological a	Project Nan				Drainag	e Data	1			Comments
Date (M / D / Y)	Time (24-Hour)	GPS Unit #	Sample Point #	Map Sheet Ref #	OHW Width	Active (A) or Inactive (I) Channel	Up (U) / or Down (D)	Photo (Y/N)	Below OHWM	At OHWM	Above OHWM	Use note pages at back of notebook for comments. Put comment number in block below.
			1.5						A: 10,13,15	B: powe	C: pge, ace vog 1,3,12	Description
513	1650	5	22412		6	A	D	Ν	D: NO NE	E: 6	F: 15,5,18	is safablishe tai M!
	,2		J.		20	і. Т.Л			A: 13,12,18	B: 1(,12,13,2	C: 12	
5113	1653	5	2122		25	A	D	N	D: NONE	E:	F: @618,16	
	~~~~		1		8.5				A: 2,15	B: 2,11,12,0813	C: 7,9,12	
5/13	1700	5	2 mp		8.5	A	U	Y	D: 4,10,12	E: 3,4,11	F: 16,18	
- 1 -		-			2.2	and a		1.5	A:	B: 2,3,10,12,13		
5/13	1710	5	2702 27D4		26	A	U	9	D: 4,7,10	E: 1,5,12	F: 13,16	
					, in the second s				A: 10,11,13,15	B: 2,4,6,10,12,13		-
5113	1735	5	27 MD	2	19	A	U	Υ	D: 2,3,4,5,7,10	E: 5,6,11,12	F: 15,16,18	
	-	1	. <u>18</u> - 281		11.2			N	A: 10,13,15	B: NONR	C: 1, 3, 12	
5/13	1743	5	27-M2 27M6	1	4:3	A	D	17	D: NONE	E: 6	F: 5,15,18	
	1		د. د.						A:	B: 9	C: 2,377,0	inactive
5/13	(755	5	27 II			I	U	4	D: NOME	E: 5./2	F: 15,16,18	

Reference: D = Drainage; M = Manmade; MD = Major Drainage; R = River

E:\DesertXpress\Desert Xpress Drainage Field Data Sheet (Final).doc

			Project Nan	he: Dese	rtXpress				HBG Sub-Basin # (1 – 41),2	1-MUTEVALLET	HUC 12 #	
	a statisticae Antonio de Santa	alan sa sa sa sa Tan sa					Drainag	e Data				Comments
Date I / D / Y)	Time (24-Hour)	GPS Unit #	Sample Point #	Map Sheet Ref #	OHW Width	or Inactive (I)	Up (U) / or Down (D) Slope from Road	Photo (Y/N)	Below OHWM	At OHWM	Above OHWM	Use note pages at back of notebook for comments. Put comment number in block below.
	. <		-2					. 1	A:	B: 2,3,10,12,13		
5/13	1805	5	2708		2.5	A	U	2	D: 4,7,10	E: 1,5,12 2000,000,003	F: 19,16	
	- 7	-			, i /~				A: 1,2,5,6,7,15	B: 2,9,11,12,B	C: 1,3,9,7,12,1 10	
5/13	1830	5	2 Jund		6.10	A	U	9	D: 3,7,10	E: 5,12	F: 5,15,18	
				<u> </u>					A:	В:	C:	
									D:	E:	F:	
)5/15 2010			<u></u>					 ,	A:5,6,7,9,11,12, 13,15,18	B:2,3(10W),5,6, 7,8,(1,12,13	C: 6,8,10,11,12	Cima exit
2010	1616	4	athit		0.11	A	4	M	D: 10,12	E: 12,14	F: 18	ip.,
<del></del>					-				A:	В:	C:	
									D:	E:	F:	
			;	-					A:	В:	C:	
									D:	E:	F:	:
									<b>A:</b>	В:	C:	
				e na president fra de P					D:	E:	F:	

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Reference: D = Drainage; M = Manmade; MD = Major Drainage; R = River

F-I.1-160

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### **ICF Jones & Stokes**

### Wetland Determination Data Forms – Arid West Region

## For DesertXpress

HUC 12 Watershed *Piute Valley* 

HBG Watershed ID # 27

Within Death Valley-Lower Amargosa Watershed (HUC 18090203)

				~	- Arid West Regio	210/25
- voject/Site:	Desert	Kpress_	City/	County: Sin	Ben	_ Sampling Date: 3/8/08
-lienel/Owner	Circle	pont		17	State: <u>C.4</u> - nge: convex. none): Conve	_ Sampling Point: <u>52-1</u>
.ppiloanoovenen	Ananda D	uchardt	MWLASE	tion, Township, Ra	nge:	
nvestigator(s): _/	tossage atc.): Va	illy FILL	Loc	al relief (concave,	convex, none): <u>حصره</u>	Slope (%):
andform (fillislop	ie, ienace, eic.). He		-tat: 10 -1	15.1077112	-tong: N 35,444	
Subregion (LKK):	V//A				NWI class	fication: 11/4 ZaVE
Soil Map Unit Nar	rologic conditions of	a the site typical fo	r this time of year?	Yes No _	(if no, explain in	Remarks.)
vre climatic / hydr	rologic conditions of $N_{-}$ , Soil $N_{-}$ ,		significantly dista	urbed? Are	"Normal Circumstances	"present? Yes 1/ No
<pre>\re Vegetation</pre>	$\overline{N}$ , soil $\overline{N}$ , $\overline{N}$ , soil $\overline{N}$ ,				eeded, explain any ansi	wers in Remarks.)
Are Vegetation		or Hydrology		maling point	locations, transec	ts, important features, etc.
SUMMARY O	F FINDINGS -	Attach site m	ap showing sa	mping point		ts, important features, etc.
hutia Vo	getation Present?	Yes	No <u>V</u>	is the Sample	d Area	
Hydric Soil Pres		Yes	_ No/	within a Wetla		No
Wetland Hydrol		Yes	_ No _/		OHWM& Ft Pho	os with description
Remarks:				Width Height		SI - Facing E
				Levet	fl Oc	2 - Facing W
acc be	nk-tobank	- 151		Slop	2	
VEGETATIO						
			Absolute D	ominant Indicator	Dominance Test w	•
	(Use scientific nam		<u>% Cover</u> S	pecies? <u>Status</u>	Number of Dominan That Are OBL, FAC	N, or FAC: (A)
2					Total Number of Do	minant <b>2</b> (B)
3					Percent of Dominan	
4		Total (			That Are OBL, FAC	W, or FAC: (A/B)
Sapling/Shrub	Stratum, Chry	sotharphus	15	BY HE	Prevalence Index	vorksheet:
		cirlata	<u> </u>	FT NO HAL	Total % Cover	
2. Contier	the Sanzt	wae		NL NL	OBL species	x1=
3. Gotter	evrezia_	Sarothra			- 1	x 2 =
4		A				×3 =
5		Total	Cover:		UPL species	x4 =
Herb Stratum					UPL species	20 (A) <u>100</u> (B)
1	None					~
2						dex = B/A =
3		<u> </u>			Hydrophytic Vege	
4					Dominance Te	st is >50%
5,					Prevalence Inc	lex is ≤3.0'
6					- Morphological	Adaptations ¹ (Provide supporting tarks or on a separate sheet)
					- Problematic H	ydrophytic Vegetation ¹ (Explain)
8			Cover:			
Woody Vine S	tratum				¹ Indicators of hydri	c soil and wetland hydrology must
					be present.	
2	,,,,,,,,,		 Cover:		Hydrophytic	. 1
ļ		1 500	Cover of Biotic Cru	st	Vegetation Present?	Yes No
	nd in Herb Stratum _					
Remarks:						

e electrological de la construcción de la construcción de la construcción de la construcción de la construcción

. * J		Sampling Point: 62-1
IL Describe to the depth	needed to document the indicator or confi	irm the absence of indicators.)
<b>b d d -t</b> - <b>t</b>	Redox Features	Remarks
epth <u>Matrix</u> –	Color (moist) % Type ¹ Loc ²	Texture Remarks
$\frac{100001}{100001}$	More	
1-17 10 4K 5/3 10010-		
	¥:=	
		g, RC=Root Channel, M=Matrix.
ype: C=Concentration, D=Depletion, RM=F	Reduced Matrix. ² Location: PL=Fore Linits	Indicators for Froblemans riterio e an
ydric Soil Indicators: (Applicable to all L	RKS, Dilless outsittee	1 cm Muck (A9) (LRR C)
_ Histosol (A1)	Sandy Redox (S5) Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
Histic Epipedon (A2)	Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
Black Histic (A3)	Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
Hydrogen Sulfide (A4)	Depieted Matrix (F3)	Other (Explain in Remarks)
Stratified Layers (A5) (LRR C)	Redox Dark Surface (F6)	
1 cm Muck (A9) (LRR D)	Depieted Dark Surface (F7)	
Depieted Below Dark Surface (A11)	Redox Depressions (F8)	
Thick Dark Surface (A12)	Vernal Pools (F9)	³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)		wetland hydrology must be present.
Sandy Gleyed Matrix (S4)		
testrictive Layer (if present):		
Туре:		Hydric Soil Present? Yes No
Depth (inches):		
Remarks:		
YDROLOGY		Secondary Indicators (2 or more required)
Remarks: YDROLOGY Wetland Hydrology Indicators:		Water Marks (B1) (Riverine)
Remarks: YDROLOGY Vetland Hydrology Indicators: Primary Indicators (any one indicator is suffi	cient)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine)
Remarks: YDROLOGY Netland Hydrology Indicators: Primary Indicators (any one indicator is suffi 	cient) Salt Crust (B11)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) ✓_ Drift Deposits (B3) (Riverine)
Remarks: YDROLOGY Vetland Hydrology Indicators: Primary Indicators (any one indicator is suffi	<u>cient)</u> Salt Crust (B11) Biotic Crust (B12)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) √_ Drift Deposits (B3) (Riverine) Drainage Patterns (B10)
Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator is suffi Surface Water (A1) High Water Table (A2) Saturation (A3)	cient) Salt Crust (B11) Biotic Crust (B12) Aguatic Invertebrates (B13)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) ✓_ Drift Deposits (B3) (Riverine)
Remarks: YDROLOGY Netland Hydrology Indicators: Primary Indicators (any one indicator is suffi Surface Water (A1) High Water Table (A2) Saturation (A3)	cient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	<ul> <li>Water Marks (B1) (Riverine)</li> <li>Sediment Deposits (B2) (Riverine)</li> <li>✓ Drift Deposits (B3) (Riverine)</li> <li>Orainage Patterns (B10)</li> <li>Dry-Season Water Table (C2)</li> </ul>
Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator is suffi 	cient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living	Water Marks (B1) (Riverine)     Sediment Deposits (B2) (Riverine)     ✓ Drift Deposits (B3) (Riverine)     Drainage Patterns (B10)     Dry-Season Water Table (C2)     Thin Muck Surface (C7)
YDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (any one indicator is suffile)         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1) (Nonriverine)         Sediment Deposits (B2) (Nonriverine)	cient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4)	y Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) ✓ Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8)
YDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (any one indicator is suffi         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1) (Nonriverine)         Sediment Deposits (B2) (Nonriverine)         Drift Deposits (B3) (Nonriverine)	cient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4)	
YDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (any one indicator is suffi         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1) (Nonriverine)         Sediment Deposits (B2) (Nonriverine)         Drift Deposits (B3) (Nonriverine)         Surface Soll Cracks (B6)	cient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent iron Reduction in Plowed S	
Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator is suffi Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soll Cracks (B6) Inundation Visible on Aerial Imagery (B	cient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent iron Reduction in Plowed S	
Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator is suffil Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soll Cracks (B6) Inundation Visible on Aerial Imagery (B Water-Stained Leaves (B9)	cient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction In Plowed S 7) Other (Explain In Remarks)	
Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator is suffi Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soll Cracks (B6) Inundation Visible on Aerial Imagery (B Water-Stained Leaves (B9) Field Observations:	cient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed S 7) Other (Explain in Remarks)	
Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator is suffi Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes	cient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent iron Reduction in Plowed S 7) Other (Explain in Remarks) No Depth (inches):	
Remarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator is suffi Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soll Cracks (B6) Inundation Visible on Aerial Imagery (B Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes	cient)	
Remarks:         YDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (any one indicator is suffil)         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1) (Nonriverine)         Sediment Deposits (B2) (Nonriverine)         Drift Deposits (B3) (Nonriverine)         Surface Soll Cracks (B6)         Inundation Visible on Aerial Imagery (B         Water-Stained Leaves (B9)         Field Observations:         Surface Water Present?         Yes	cient)	
Remarks:         YDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (any one indicator is suffile)         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1) (Nonriverine)         Drift Deposits (B3) (Nonriverine)         Surface Soll Cracks (B6)         Inundation Visible on Aerial Imagery (B         Water-Stained Leaves (B9)         Field Observations:         Surface Water Present?         Yes         Saturation Present?	cient)	
Remarks:         YDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (any one indicator is suffile)         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1) (Nonriverine)         Drift Deposits (B3) (Nonriverine)         Surface Soll Cracks (B6)         Inundation Visible on Aerial Imagery (B         Water-Stained Leaves (B9)         Field Observations:         Surface Water Present?         Yes         Saturation Present?	cient)	
Remarks:         YDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (any one indicator is suffiled)         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1) (Nonriverine)         Drift Deposits (B3) (Nonriverine)         Surface Soll Cracks (B6)         Inundation Visible on Aerial Imagery (B         Water-Stained Leaves (B9)         Field Observations:         Surface Water Present?         Yes         Saturation Present?	cient)	

OHWM Indicators (use ubbreviations): IF-Stallym little + debns, Scour

WETLAND DETERMINATION DATA FORM -	Aria West Region
oject/Site: Desert X press City/County: San	Berdo Sampling Date: 3/9/08
Contraction of the second	State: Sampling Point:
A N. AL AL M NO. 2015 Section, Township, Ran	ge:
ubregion (LRR):	Long+ N 35 4433 9 (2) Datum: MAX as
	NWI classification: /////
re climatic / hydrologic conditions on the site typical for this time of year? YesVNo	(If no, explain in Remarks.)
re Vegetation N_, Soil N_, or Hydrology Y_ significantly disturbed? Are n	vomai Circuinstances presenti 100
$\mathcal{N}_{\text{assistantian}}$ $\mathcal{N}_{\text{soil}}$ $\mathcal{N}_{\text{soil}}$ or Hydrology $\mathcal{N}_{\text{soil}}$ naturally problematic? (If near	eded, explain any answers in Remarks.)
UMMARY OF FINDINGS – Attach site map showing sampling point lo	
Hydrophytic Vegetation Present? Yes No is the Sampled	Area
Hydric Soil Present? Yes <u>No v</u> within a Wetlan	d? Yes No 1
	HWM 2Ft Photos (with description)
Height	2 ft UV of Mung 3
Levelth. Side	1:1 MOOS Fring N
CDFG bank - 25 × 6' deep side	
EGETATION	Dominance Test worksheet:
Absolute Dominant Indicator %Cover Species? Status	Number of Dominant Species
Tree Stratum     (Use scientific names.)     % Cover     Species (       1.	That Are OBL, FACW, or FAC: (A)
2	Total Number of Dominant2 (B)
3	Percent of Dominant Species
4 Total Cover: ال	That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub.Stratum	Prevalence Index worksheet:
Sapling/Shrub Stratum 1. Grutienezia Sanothrae 5 Y 67E	Total % Cover of: Multiply by:
2	OBL species x 1 =
3	FACW species x 2 =
4	FAC species × 3 =
5 Total Cover:	FACU species x 4 =
Herb Stratum	UPL species $\frac{7}{5}$ x 5 = $\frac{35}{7}$
1. Stanleya Dunnata / LEE	Column Totals: (A) (B)
2	Prevalence index = B/A =
3	Hydrophytic Vegetation Indicators:
4	Dominance Test is >50%
5	Prevalence Index is ≤3.0 ¹
6	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8	Problematic Hydrophytic Vegetation ¹ (Explain)
8 Total Cover:	
Woody Vine Stratum	¹ Indicators of hydric soil and wetland hydrology must
1	be present.
2 Total Cover:	Hydrophytic
<b>0</b> 6	Vegetation Present? Yes No
	· ·
Remarks:	

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Sampling P	Point: <u>(</u>	52	- 4	

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Depth <u>Matrix</u> (inches) Color (moist) %	Redox Features           Color (moist)         %         Type ¹ Loc	² Texture	Remarks
			aravel, suit
0-10 104185/3100			
vpe: C=Concentration, D=Depletion, RM=	Reduced Matrix. ² Location: PL=Pore Linir	ng, RC=Root Chan	nel, M=Matrix.
ydric Soil Indicators: (Applicable to all	LRRs, unless otherwise noted.)	Indicators	for Problematic Hydric Solls ³ :
Histosol (A1)	Sandy Redox (S5)		Auck (A9) (LRR C)
_ Histic Epipedon (A2)	Stripped Matrix (S6)		Auck (A10) (LRR B)
Black Histic (A3)	Loamy Mucky Mineral (F1)		ed Vertic (F18)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)		arent Material (TF2) (Exploin in Romotica)
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3) Redox Dark Surface (F6)		(Explain in Remarks)
1 cm Muck (A9) (LRR D)	Depleted Dark Surface (F7)		
_ Depleted Below Dark Surface (A11) Thick Dark Surface (A12)	Redox Depressions (F8)		
Sandy Mucky Mineral (S1)	Vernal Pools (F9)	³ Indicators	of hydrophytic vegetation and
Sandy Gleyed Matrix (S4)		wetland	hydrology must be present.
estrictive Layer (if present):			/
Туре:		1	
Depth (inches):		Hydric Soil	Present? Yes No <u>V</u>
emarks:			
	· ·		
DROLOGY			
DROLOGY etland Hydrology Indicators:			dary Indicators (2 or more required)
DROLOGY etland Hydrology Indicators:	-	w	ater Marks (B1) (Riverine)
DROLOGY etland Hydrology Indicators: imary Indicators (any one indicator is suffic _ Surface Water (A1)	Salt Crust (B11)	W Se	ater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine)
DROLOGY etland Hydrology Indicators: imary Indicators (any one indicator is suffic	Salt Crust (B11) Biotic Crust (B12)	W Se D	'ater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine)
DROLOGY etland Hydrology Indicators: imary Indicators (any one indicator is suffic _ Surface Water (A1) _ High Water Table (A2) _ Saturation (A3)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13)	W S( D) D	later Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10)
DROLOGY etland Hydrology Indicators: imary Indicators (any one indicator is suffic Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine)	<ul> <li>Salt Crust (B11)</li> <li>Biotic Crust (B12)</li> <li>Aquatic Invertebrates (B13)</li> <li>Hydrogen Sulfide Odor (C1)</li> </ul>	W Se Di Di Di	ater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2)
DROLOGY etland Hydrology Indicators: imary Indicators (any one indicator is suffic _ Surface Water (A1) _ High Water Table (A2) _ Saturation (A3) _ Water Marks (B1) (Nonriverine) _ Sediment Deposits (B2) (Nonriverine)	<ul> <li>Salt Crust (B11)</li> <li>Biotic Crust (B12)</li> <li>Aquatic Invertebrates (B13)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres along Living</li> </ul>	W Sa Di Di Di Roots (C3) Th	ater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2) nin Muck Surface (C7)
DROLOGY etland Hydrology Indicators: imary Indicators (any one indicator is suffic _ Surface Water (A1) _ High Water Table (A2) _ Saturation (A3) _ Water Marks (B1) (Nonriverine) _ Sediment Deposits (B2) (Nonriverine) _ Drift Deposits (B3) (Nonriverine)	<ul> <li>Salt Crust (B11)</li> <li>Biotic Crust (B12)</li> <li>Aquatic Invertebrates (B13)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres along Living</li> <li>Presence of Reduced Iron (C4)</li> </ul>	W Sa Da Da Da Roots (C3) Th Ca	ater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2) nin Muck Surface (C7) rayfish Burrows (C8)
DROLOGY etland Hydrology Indicators: imary Indicators (any one indicator is suffic Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6)	<ul> <li>Salt Crust (B11)</li> <li>Biotic Crust (B12)</li> <li>Aquatic Invertebrates (B13)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres along Living</li> <li>Presence of Reduced Iron (C4)</li> <li>Recent Iron Reduction in Plowed Soi</li> </ul>	— W — Se — Di — Di	ater Marks (B1) (Riverine) adiment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2) nin Muck Surface (C7) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9
<b>DROLOGY</b> <b>etland Hydrology Indicators:</b> <u>imary Indicators (any one Indicator is suffic</u> Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7)	<ul> <li>Salt Crust (B11)</li> <li>Biotic Crust (B12)</li> <li>Aquatic Invertebrates (B13)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres along Living</li> <li>Presence of Reduced Iron (C4)</li> <li>Recent Iron Reduction in Plowed Soi</li> </ul>	— W — So — Di — Di	ater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2) nin Muck Surface (C7) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9 nallow Aquitard (D3)
DROLOGY etland Hydrology Indicators: imary Indicators (any one indicator is suffic Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7 Water-Stained Leaves (B9)	<ul> <li>Salt Crust (B11)</li> <li>Biotic Crust (B12)</li> <li>Aquatic Invertebrates (B13)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres along Living</li> <li>Presence of Reduced Iron (C4)</li> <li>Recent Iron Reduction in Plowed Soi</li> </ul>	— W — So — Di — Di	ater Marks (B1) (Riverine) adiment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2) nin Muck Surface (C7) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9
DROLOGY etland Hydrology Indicators: imary Indicators (any one indicator is suffic Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7 Water-Stained Leaves (B9) eld Observations:	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Soi ) Other (Explain in Remarks)	— W — So — Di — Di	ater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2) nin Muck Surface (C7) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9 nallow Aquitard (D3)
<b>DROLOGY</b> retland Hydrology Indicators:         imary Indicators (any one indicator is suffice         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1) (Nonriverine)         Sediment Deposits (B2) (Nonriverine)         Drift Deposits (B3) (Nonriverine)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Imagery (B7)         Water-Stained Leaves (B9)         eld Observations:         urface Water Present?	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Soi Other (Explain in Remarks) Depth (inches): MONE	— W — So — Di — Di	ater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2) nin Muck Surface (C7) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9 nallow Aquitard (D3)
DROLOGY         etland Hydrology Indicators:         imary Indicators (any one indicator is suffic         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1) (Nonriverine)         Sediment Deposits (B2) (Nonriverine)         Drift Deposits (B3) (Nonriverine)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Imagery (B7)         Water-Stained Leaves (B9)         eld Observations:         urface Water Present?       Yes N         ater Table Present?       Yes N	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Soi Other (Explain in Remarks) Io  Depth (inches):  U Depth (inches):  U	W Sa Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di DI	ater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2) nin Muck Surface (C7) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9 nallow Aquitard (D3) AC-Neutral Test (D5)
DROLOGY         etland Hydrology Indicators:         imary Indicators (any one indicator is suffic         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1) (Nonriverine)         Sediment Deposits (B2) (Nonriverine)         Drift Deposits (B3) (Nonriverine)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Imagery (B7)         Water-Stained Leaves (B9)         eld Observations:         urface Water Present?       Yes N         ater Table Present?       Yes N         turation Present?       Yes N	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Soi Other (Explain in Remarks) Io  Depth (inches):  U Depth (inches):  U	W Sa Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di Di DI	ater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2) nin Muck Surface (C7) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9 nallow Aquitard (D3)
DROLOGY         etland Hydrology Indicators:         imary Indicators (any one indicator is suffice         _ Surface Water (A1)         _ High Water Table (A2)         _ Saturation (A3)         _ Water Marks (B1) (Nonriverine)         _ Sediment Deposits (B2) (Nonriverine)         _ Drift Deposits (B3) (Nonriverine)         _ Surface Soil Cracks (B6)         _ Inundation Visible on Aerial Imagery (B7)         Water-Stained Leaves (B9)         eld Observations:         Inface Water Present?       Yes N         ater Table Present?       Yes N         ater Table Present?       Yes N         cludes capillary frince)       Yes N		W Sa Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da Da 	ater Marks (B1) ( <b>Riverine</b> ) adiment Deposits (B2) ( <b>Riverine</b> ) rift Deposits (B3) ( <b>Riverine</b> ) rainage Patterns (B10) ry-Season Water Table (C2) nin Muck Surface (C7) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9 nallow Aquitard (D3) AC-Neutral Test (D5)
<b>'DROLOGY</b> /etland Hydrology Indicators:         rimary Indicators (any one indicator is suffic         _ Surface Water (A1)         _ High Water Table (A2)         _ Saturation (A3)         _ Water Marks (B1) (Nonriverine)         _ Sediment Deposits (B2) (Nonriverine)         _ Drift Deposits (B3) (Nonriverine)         _ Surface Soil Cracks (B6)         _ Inundation Visible on Aerial Imagery (B7)         _ Water-Stained Leaves (B9)         eld Observations:         urface Water Present?       Yes N         ater Table Present?       Yes N         aturation Present?       Yes N	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Soi Other (Explain in Remarks) Io Upepth (inches): <u>VOR</u> Io Depth (inches): <u>SIU</u> No Depth (inches): <u>SIU</u> No Month Inches): <u>SIU</u>	/etland Hydrology	ater Marks (B1) (Riverine) adiment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2) nin Muck Surface (C7) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9 nation Aquitard (D3) AC-Neutral Test (D5)
High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7 Water-Stained Leaves (B9) eld Observations: urface Water Present? Yes N dater Table Present? Yes N aturation Present? Yes N aturation Present? Yes N acturation Present? Yes N Act	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Soi Other (Explain in Remarks) Io Upepth (inches): <u>VOR</u> Io Depth (inches): <u>SIU</u> No Depth (inches): <u>SIU</u> No Month Inches): <u>SIU</u>	/etland Hydrology	ater Marks (B1) (Riverine) adiment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2) nin Muck Surface (C7) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9 nation Aquitard (D3) AC-Neutral Test (D5)
//DROLOGY         /etland Hydrology Indicators:         rimary Indicators (any one indicator is suffic	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Soi Other (Explain in Remarks) Io Upepth (inches): <u>VOR</u> Io Depth (inches): <u>SIU</u> No Depth (inches): <u>SIU</u> No Month Inches): <u>SIU</u>	/etland Hydrology	ater Marks (B1) (Riverine) adiment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2) nin Muck Surface (C7) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9 nation Aquitard (D3) AC-Neutral Test (D5)
/DROLOGY         /etland Hydrology Indicators:         rimary Indicators (any one indicator is suffic         _ Surface Water (A1)         _ High Water Table (A2)         _ Saturation (A3)         _ Water Marks (B1) (Nonriverine)         _ Drift Deposits (B2) (Nonriverine)         _ Drift Deposits (B3) (Nonriverine)         _ Surface Soil Cracks (B6)         _ Inundation Visible on Aerial Imagery (B7)         water-Stained Leaves (B9)         eld Observations:         urface Water Present?       Yes N         ater Table Present?       Yes N         aturation Present?       Yes N	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Soi Other (Explain in Remarks) Io Upepth (inches): <u>VOR</u> Io Depth (inches): <u>SIU</u> No Depth (inches): <u>SIU</u> No Month Inches): <u>SIU</u>	/etland Hydrology	ater Marks (B1) (Riverine) adiment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2) nin Muck Surface (C7) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9 nation Aquitard (D3) AC-Neutral Test (D5)
DROLOGY         etland Hydrology Indicators:         imary Indicators (any one indicator is suffic         _ Surface Water (A1)         High Water Table (A2)         _ Saturation (A3)         Water Marks (B1) (Nonriverine)         _ Sediment Deposits (B2) (Nonriverine)         _ Drift Deposits (B3) (Nonriverine)         _ Surface Soil Cracks (B6)         _ Inundation Visible on Aerial Imagery (B7)         Water-Stained Leaves (B9)         eld Observations:         inface Water Present?       Yes N         ater Table Present?       Yes N         ituration Present?       Yes N	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Soi Other (Explain in Remarks) Io Upepth (inches): <u>VOR</u> Io Depth (inches): <u>SIU</u> No Depth (inches): <u>SIU</u> No Month Inches): <u>SIU</u>	/etland Hydrology	ater Marks (B1) (Riverine) adiment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2) nin Muck Surface (C7) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9 nation Aquitard (D3) AC-Neutral Test (D5)
DROLOGY         etland Hydrology Indicators:         imary Indicators (any one indicator is suffice         _ Surface Water (A1)         _ High Water Table (A2)         _ Saturation (A3)         _ Water Marks (B1) (Nonriverine)         _ Sediment Deposits (B2) (Nonriverine)         _ Drift Deposits (B3) (Nonriverine)         _ Surface Soil Cracks (B6)         _ Inundation Visible on Aerial Imagery (B7)         Water-Stained Leaves (B9)         eld Observations:         rface Water Present?       Yes N         ater Table Present?       Yes N         turation Present?       Yes N         cludes capillary fringe)       scribe Recorded Data (stream gauge, mone         marks:       MAMM, MAMMMA         M H M MM, M MAMMA       MAMMA         M H M MM, M MAMMA       MAMMA		Vetland Hydrology	ater Marks (B1) (Riverine) adiment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2) nin Muck Surface (C7) rayfish Burrows (Č8) aturation Visible on Aerial Imagery (C9 nation Aquitard (D3) AC-Neutral Test (D5)

WETLAND DETE	RMINATION	DATA FORM -	- Arid West Regior	
roject/Site: Desert Xpress	City/	county: <u>Sam</u>	Berks.	_ Sampling Date: <u>3/9/08</u>
Cicile Point			State:	_ Sampling Point: 177
A North of M Widdow	<u>risen</u> Sect	ion, Township, Rai	nge;	
		1 U-flangenie	TODAY DODAY	
Subregion (LRR):	#at 12 ~11	2101010101		
a 444 - 11-44 3			NWI classifi	
Are climatic / hydrologic conditions on the site typical for th	his time of year?	Yes No	(If no, explain in I	Remarks.)
Are Vegetation, Soil, or Hydrology	significantly dist.	urbed? Are '	Normal Circumstances*	present? Yes No
Are Vegetation <u>N</u> , Soil <u>N</u> , or Hydrology <u>N</u>	naturally problem	natic? (If ne	eded, explain any answ	ers in Remarks.)
SUMMARY OF FINDINGS – Attach site map		moling point l	ocations, transect	s, important features, etc.
SUMMARY OF FINDINGS - Attach site map				
Hydrophytic Vegetation Present?     Yes       Hydric Soil Present?     Yes	No	Is the Sampled within a Wetlar	Area nd? Yes	No
Wetland Hydrology Present? Yes	No <u>V</u>			
Remarks:		Width Height Length Side Slope	$\frac{0.5}{10.5} \stackrel{\text{ft}}{\text{ft}} 00$	Swith descriptions 9 Fracing E
VEGETATION				
<u>Tree Stratum</u> (Use scientific names.)	Absolute Do % Cover Sr	minant Indicator becies? Status	Dominance Test wor Number of Dominant That Are OBL, FACW	Species
1	·····			lacal .
2			Total Number of Dom Species Across All St	rata: <u>6</u> (B)
3			Percent of Dominant	
4 Total Cov	/er:		That Are OBL, FACW	, or FAC: (A/B)
Sapling/Shrub Stratum			Prevalence Index wo	orksheet:
1	<u> </u>	······		Multiply by:
2			OBL species	x1=
3			FACW species	x 2 =
4			FAC species	
oTotal Cov	/er:			x4= '
Herb Stratum None	,			x 5 = (A) (B)
1				18
2			Prevalence Inde	ex = B/A =
3			Hydrophytic Vegeta	tion Indicators:
4			Dominance Test	is >50%
2			Prevalence Index	( Is ≤3.0'
6 7	<u></u> ``	<u></u>	data in Rema	laptations ¹ (Provide supporting rks or on a separate sheet)
8			Problematic Hyd	rophytic Vegetation ¹ (Explain)
Total Cov	ver:			
Woody Vine Stratum	/			oil and wetland hydrology must
1			be present.	······
2.       Total Correction         % Bare Ground in Herb Stratum       [D]       % Correction	ver:	$O_{-}$	Hydrophytic Vegetation Present?	res No
			1	
Remarks: Channel has no very	r			
	F-1	.1-166		

SOIL		Sampling Point: <u>62-3</u>
Profile Description: (Describe to the depl	In needed to document the indicator or con	firm the absence of indicators.)
Depth Matrix	Redox Features	•
(inches) Color (moist) %	Color (moist) % Type ¹ Loc	
0-12 10 YR 513 10D		Sand
/		
	· · · · · · ·_	
		an a
¹ Type: C=Concentration, D=Depletion, RM=		g, RC=Root Channel, M=Matrix. Indicators for Problematic Hydric Soils ³ :
Hydric Soil Indicators: (Applicable to all	LRRs, unless otherwise noted.)	1 cm Muck (A9) (LRR C)
Histosol (A1)	Sandy Redox (S5)	2 cm Muck (A10) (LRR B)
Histic Epipedon (A2)	Stripped Matrix (S6)	Reduced Vertic (F18)
Black Histic (A3)	Loamy Mucky Mineral (F1) Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
Hydrogen Suifide (A4)	Depleted Matrix (F3)	Other (Explain in Remarks)
Stratified Layers (A5) (LRR C)	Depleted Matrix (13) Redox Dark Surface (F6)	
1 cm Muck (A9) (LRR D)	Depleted Dark Surface (F7)	
Depleted Below Dark Surface (A11)	Redox Depressions (F8)	
Thick Dark Surface (A12) Sandy Mucky Mineral (S1)	Vernal Pools (F9)	³ indicators of hydrophytic vegetation and
Sandy Micky Mineral (31) Sandy Gleyed Matrix (S4)		wetland hydrology must be present.
Restrictive Layer (if present):		
Туре:		Hydric Soil Present? Yes No
Depth (inches):		
Remarks:		
YDROLOGY		
Wetland Hydrology Indicators:		Secondary indicators (2 or more required)
Primary Indicators (any one indicator is suffi	cient)	Water Marks (B1) (Riverine)
Surface Water (A1)	Salt Crust (B11)	Sediment Deposits (B2) (Riverine)
High Water Table (A2)	Biotlc Crust (B12)	Drift Deposits (B3) (Riverine)
High Water Fable (7.27	Aquatic Invertebrates (B13)	Drainage Patterns (B10)
Water Marks (B1) (Nonriverine)	Hydrogen Sulfide Odor (C1)	Dry-Season Water Table (C2)
Sediment Deposits (B2) (Nonriverine)	Oxidized Rhizospheres along Living	Roots (C3) Thin Muck Surface (C7)
	Presence of Reduced iron (C4)	Crayfish Burrows (C8)
Drift Deposits (B3) (Nonriverine)	Recent iron Reduction in Plowed So	ils (C6) Saturation Visible on Aerial Imagery (C9
Surface Soil Cracks (B6)		Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B)	-	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)		
Field Observations:	1 Donth (materil) NONP	
Surface Water Present? Yes	No V Depth (inches): None	
Water Table Present? Yes		Vetland Hydrology Present? Yes No
Saturation Present7 Yes	No Depth (inches): V	venanu nyurology research res no
	onitoring wall, aerial photos, previous inspectio	ns), if available:
Describe Recorded Data (stream gauge, mo	Millioning Hon, Long, Prisioo, Presser and Pris	
Remarks:		

OHWM Indicators (use abbreviations): Scotta-167 PC. Primary bibutom substrate composition (use abbreviations): Sand

		$\mathcal{O}$		214 IOM
roject/Site: Desert Xpress	City/County: _	Sa.	Dend 12	Sampling Date: 3/9/08
in the first white			State:	_ Sampling Point: <u>62-5</u>
	Section, Town	nship, Rar	nge:	
	Local relief (C)	concave, c	convex, none): <u></u>	Sippe (70).
	Tab Ta	609	Long:13 35.44	12512 Datum: 12512
	<u> </u>		NWI class	ification: NA ZONEI
oil Map Unit Name: <u>V/A</u>				
re climatic / hydrologic conditions on the site typical for this time of y	/ear? Yes <u>//</u>	NO		s" present? Yes _/ No
are Vegetation _ N, Soil _ N, or Hydrology _ N significantl	y disturbed?			
Are Vegetation $N_{\rm e}$ , Soli $N_{\rm e}$ , or Hydrology $N_{\rm e}$ naturally p	roblematic?	•	eded, explain any ans	
SUMMARY OF FINDINGS – Attach site map showin	g sampling	point lo	ocations, transec	ts, important features, etc.
Hydrophytic Vegetation Present? Yes No		Sampled		No
riyana cost recent	- within	a Wetlan		
	!	<u> </u>	HWM ZA Phon	os with description
Remarks:		Width . Height	C	12 Facing N (downst
		Leretth.	SCIL HOI	3 Faing S (upstream
		Slope		
EGETATION			Dominance Test we	orksheet'
Absolut	e Dominant Ir er Species?	ndicator Status	Number of Dominan	
The Stratum (Ose science name)	<u></u>		That Are OBL, FAC	N, or FAC: (A)
1		<u> </u>		
2			Total Number of Dor Species Across Ali S	
3			Percent of Dominan	,
4 Total Cover:			That Are OBL, FAC	W, or FAC: (A/B)
Sapling/Shrub Stratum Q	-	FACH		
1. Ampley conescens 8	<u> </u>	UPL	Prevalence Index v	
2		<u></u>	Total % Cover c	
3			1 .	x1=
4			-	x 2 =
5	<u> </u>		FAC species	$x^3 = \frac{152}{152}$
Total Cover:	NL		FACU species	33 ×4= 152 2330 ×5= 315150
Herb Stratum 25		r Facu UPC		
1. SISYMBRUM UND		4PLN	Column Totals: <u>6</u>	
2. PROUMA MUNTANDING		NEA	Prevalence In	dex = B/A = $54.48$
3. Kromus noens		UPT NI	h	ation Indicators:
4. Schrsmins Sp. Carabians barbatus 5	<u> </u>		Dominance Tes	
5			Prevalence Inde	
6			Momhological A	Adaptations ¹ (Provide supporting
7.			data in Rem	arks or on a separate sheet)
8		<del></del>	Problematic Hy	drophytic Vegetation1 (Explain)
20% threshold = 11% Total Cover: 55	<u>}</u>			
Woody Vine Stratum				soil and wetland hydrology must
1			be present.	
2 Total Cover:			Hydrophytic	,
15	r an		Vegetation Present?	Yes No V
% Bare Ground in Herb Stratum 4. % Cover of Biotic				
Remarks:				

An over a subscene model where a sub-

,

	depth needed to document the indicator or c	onfirm the absence	of indicators.)
rofile Description: (Describe to the			
Depth <u>Matrix</u> (loches) Color (moist) %		oc ² Texture	Remarks
$\frac{(nches)}{7-4} = \frac{Color(moist)}{107} = \frac{70}{100}$		Sandylon	37
		- V	Parent masterial -
+- 10YR7/2 10	D		Parent material - de composing bedrock
			• •••••••
			· · · · · · · · · · · · · · · · · · ·
	, RM=Reduced Matrix. ² Location: PL=Pore Li	ining, RC=Root Char	nnel, M=Matrix. s for Problematic Hydric Soils ³ :
hydric Soil Indicators: (Applicable t	o all LRRs, unless otherwise noted.)		
Histosol (A1)	Sandy Redox (S5)		Muck (A9) (LRR C) Muck (A10) (LRR B)
Histic Epipedon (A2)	Stripped Matrix (S6)		iced Vertic (F18)
Black Histic (A3)	Loamy Mucky Mineral (F1)	Redu	Parent Material (TF2)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	rteu l	r (Explain in Remarks)
Stratified Layers (A5) (LRR C)	Depieted Matrix (F3)		· (
1 cm Muck (A9) (LRR D)	Redox Dark Surface (F6)		
Depleted Below Dark Surface (A1	1) Depleted Dark Surface (F7)		
Thick Dark Surface (A12)	Redox Depressions (re)	³ Indicator	s of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Vernal Pools (F9)		d hydrology must be present.
Sandy Gleyed Matrix (S4)			
Restrictive Layer (if present):			
Type: bed vorch			il Present? Yes No
· / · · · ·			
Depth (inches): Remarks: Shovel refused out L	t in ches		
Remarks: Shovel refused out Li IYDROLOGY	t in ches		
Remarks: Shovel refused of L IYDROLOGY Wetland Hydrology Indicators:			ondary Indicators (2 or more required)
Remarks: Shovel refused of L IYDROLOGY Wetland Hydrology Indicators:	is sufficient)		ondary Indicators (2 or more required) Water Marks (B1) (Riverine)
Remarks: Shovel refused of L Sydrology Wetland Hydrology Indicators: Primary Indicators (any one Indicator i	s sufficient) Salt Crust (B11)	<u>Sec</u>	ondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine)
Remarks: Shovel refused of L Shovel refused of L Primary Indicators: Surface Water (A1)	s sufficient) Salt Crust (B11) Biotic Crust (B12)	<u>Sec</u>	ondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine)
Remarks: Shoved refused of L IYDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one Indicator I Surface Water (A1) High Water Table (A2)	<u>s sufficient)</u> Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13)	<u>Sec</u>	ondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10)
Remarks: Shoved refused of La IYDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator is 	Salt Crust (B11) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	<u>Sec</u>	ondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2)
Remarks: Shoved refused of L IYDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine)	is sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	<u>Sec</u>	ondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7)
Remarks: Shoved refused of L IYDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one Indicator is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonrive	Salt Crust (B11) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) crine) Oxidized Rhizospheres along Liv	<u>Sec</u>	ondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8)
Remarks: Shoved refused of L Shoved refused of L Primary indicators (any one indicator i Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine)	s sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) erIne) Oxidized Rhizospheres along Liv Presence of Reduced iron (C4)	ving Roots (C3)	ondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C
Remarks: Shoved refused of L Shoved refused of L Primary indicators (any one indicator i Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6)	s sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv Presence of Reduced iron (C4) Recent Iron Reduction in Plowed	ving Roots (C3)	ondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8)
Remarks: Shovel refused at L Wetland Hydrology Indicators: Primary Indicators (any one indicator is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriver Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Image	s sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv Presence of Reduced iron (C4) Recent Iron Reduction in Plowed	ving Roots (C3)	ondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C
Remarks: Shoved refused of La Primary indicators (any one indicators: Primary indicators (any one indicator in Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Image Water-Stained Leaves (B9)	s sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv Presence of Reduced iron (C4) Recent Iron Reduction in Plowed	ving Roots (C3)	ondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C Shallow Aquitard (D3)
Remarks: Shoved refused of L Shoved refused of L Primary indicators (any one indicator i Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Image Water-Stained Leaves (B9) Field Observations:	is sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv Presence of Reduced iron (C4) Recent Iron Reduction in Plowed ery (B7) Other (Explain In Remarks)	ving Roots (C3)	ondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aeriat Imagery (C Shallow Aquitard (D3)
Remarks: Shoved refused at L Wetland Hydrology Indicators: Primary Indicators (any one indicator is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriver Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Image Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes	is sufficient) 	ving Roots (C3)	ondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aeriat Imagery (C Shallow Aquitard (D3) FAC-Neutral Test (D5)
Remarks: Shoved refused at Li Wetland Hydrology Indicators: Primary Indicators (any one indicator is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriver Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Image Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes	is sufficient) 	ving Roots (C3)	ondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aeriat Imagery (C Shallow Aquitard (D3) FAC-Neutral Test (D5)
Remarks: Shoved refused of La Wetland Hydrology Indicators: Primary Indicators (any one Indicator is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Image Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes Saturation Present? Yes Saturation Present? Yes	Salt Crust (B11) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed ery (B7) Other (Explain in Remarks) No Depth (inches):	ving Roots (C3)	ondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aeriat Imagery (C Shallow Aquitard (D3) FAC-Neutral Test (D5)
Remarks: Shoved refused at L Wetland Hydrology Indicators: Primary Indicators (any one indicator is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriver Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Image Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes Saturation Present? Yes Saturation Present? Yes Saturation Present? Yes Saturation Present? Yes Saturation Present? Yes (includes capillary fringe)	is sufficient)	ving Roots (C3)	ondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aeriat Imagery (C Shallow Aquitard (D3) FAC-Neutral Test (D5)
Remarks: Shoved refused of La Wetland Hydrology Indicators: Primary Indicators (any one Indicator is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Image Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes Saturation Present? Yes Saturation Present? Yes	is sufficient)	ving Roots (C3)	ondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aeriat Imagery (C Shallow Aquitard (D3) FAC-Neutral Test (D5)
Remarks: Shoved refused at L Wetland Hydrology Indicators: Primary Indicators (any one indicator is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriver Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Image Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes Saturation Present? Yes Saturation Present? Yes Saturation Present? Yes Saturation Present? Yes Saturation Present? Yes (includes capillary fringe)	is sufficient)	ving Roots (C3)	ondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C Shallow Aquitard (D3) FAC-Neutral Test (D5)

OHWM Indicators (use abbrev, aucris): 2000 1000 (abbreviations): South isra rel cabbre

WETLAND DETERMINATION DATA FORM – Arid West Region						
Project/Site:	(	City/County:	Sun E	Bernardika	_ Sampling Date: 3/14/1	<u>08 ·</u>
pplicant/Owner: Circle Psint		<u> </u>		State: <u>R</u>	_ Sampling Point: 621 -	<u>\</u>
Investigator(s): J. Holson J Windbol-	<u>+→</u> ;	Section, Tov	wnship, Rar	nge:		
Landform (billslope forrace of ): Valla ; Flop		Local relief	(concave, c	convex, none): <u>(Direction</u>	<u>떠는</u> Siope (%): _	<u>1%</u> _
Subregion (LRR):	<u>-tat () -</u>	-115.58	8874	Long: <u>N 35.474</u>	135 Datum: MAD	15
Soil Map Unit Name: 1/12			_/	NWI classifi	ication:	<u>E 11</u>
Are climatic / hydrologic conditions on the site typical for this	time of yea	ar? Yes	✓ N□	(If no, explain in I	Remarks.)	
Are Vegetation Soll, or Hydrology si	ignificantly (	disturbed?	Are "	Normal Circumstances"	present? Yes <u>Y</u> No	
Are Vegetation, Soil, or Hydrology n	aturally prof	blematic?	(lf ne	eded, explain any answ	ers in Remarks.)	
SUMMARY OF FINDINGS - Attach site map	showing	sampling	g point lo	ocations, transect	s, important features	;, etc.
Hydrophytic Vegetation Present?       Yes No         Hydric Soil Present?       Yes No         Wetland Hydrology Present?       Yes No	>_ <b>√</b> _∕`	1	e Sampled in a Wetlan			
Remarks:		1	64WH H- ( 5- L	a' o''  :1	Phone 55644	/Jorih
VEGETATION				······································		
<u>Tree Stratum</u> (Use scientific names.) 1.	Absolute <u>% Cover</u>	Dominant Species?	Indicator Status	Dominance Test wor Number of Dominant 5 That Are OBL, FACW	Species 1	(A)
3	<u> </u>			Total Number of Dom Species Across All St		(B)
4 Total Cover	Z_	-	<u> </u>	Percent of Dominant S That Are OBL, FACW	Species , or FAC:	(A/B)
<u>Sapling/Shrub Stratum</u> 1. E-Nrelia fruto. Sur 5	Ц	4	YPE NI	Prevalence Index wo	orksheet:	
2. Enicameria laricifalia	3	<u></u>	UPT UL			-
3. Atriplex can escens	<u> </u>	<u>N</u>	APE	. S. A.	x1=	,
4		·		· —	x2=	-
5			<u>.</u>	FAC species	x 3 =	-
Total Cover Herb Stratum	:	-		UPL species	11 x5= 6055	_
1. Erodium Cirytorium	1	. <u> </u>	HE NIL	Column Totals:		(B)
		v	فاهد سالات	7 I		

2. JALISMUS WANDATUS		the way	Prevalence Index = $B/A = __\underline{S} 4.92$
3. Anistida plarpurez	<u></u>		Hydrophytic Vegetation Indicators:
4			Dominance Test is >50%
5			Prevalence Index is ≤3.0 ¹
67	······································	<u> </u>	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8	Total Cover: 4		Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum			¹ Indicators of hydric soil and wetland hydrology must
1		<u> </u>	be present.
2		······	Hydrophytic
- (	Total Cover:	- (	Vegetation
% Bare Ground in Herb Stratum _ 96	% Cover of Biotic Crust		Present? Yes No
Remarks:			

barbatus

2.

Schismus

UFEN

\$ 4.92

SOIL	S	0	IL
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		1 al
Sampling	Point:	<u> </u>

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

Depth .	tption: (Describe to <u>Matrix</u>			x Features		Texture	Remarks	
(inches)	Color (moist)	%	<u></u>	. <u> </u>		Grand / Cold, la		
<u> </u>	INA		1/0	<b>.</b>	· ·		<u> </u>	
	<u> </u>					<u> </u>	·····	
	-							
					<u> </u>			
		<u> </u>					M-Motrix	
¹ Type: C=Co	ncentration, D=Deple	etion, RM=F	Reduced Matrix.		Pore Lining,	RC=Root Channel	r Problematic Hydri	c Soils ³ :
Hydric Soll II	ndicators: (Applica	ble to all L	RRs, unless othe	rwise noted.)			k (A9) (LRR C)	
Histosol (			Sandy Red				k (A10) (LRR B)	
· ·	ipedon (A2)		Stripped M				Vertic (F18)	
Black His				cky Mineral (F1) yed Matrix (F2)			ent Material (TF2)	
Hydroger	n Sulfide (A4)	1	Loamy Ge Depleted N				plain in Remarks)	
	Layers (A5) (LRR C	)		k Surface (F6)				
	ck (A9) ( <b>LRR D)</b> Below Dark Surface	(411)		ark Surface (F7	")			
	rk Surface (A12)	. (13) 27	Redox Dep	pressions (F8)	•	_		
	ucky Mineral (S1)		Vernal Poo				hydrophytic vegetati	
Sandy G	leyed Matrix (S4)					wetland hy	/drology must be pre	sent.
Restrictive L	ayer (if present):	<u> </u>				5		1
Type:	riprop_							
Depth (inc	thes): / / /		<u> </u>			Hydric Soil P	resent? Yes	<u> </u>
			wa wa		,,		<u>#</u>	
YDROLO	GY .						ary indicators (2 or n	ore required)
	drology Indicators:						ter Marks (B1) (Rive	
Primary Indic	ators (any one indic	ator is suffic	clent)	<u></u>				
Surface	Water (A1)		Salt Crus				diment Deposits (B2) It Deposits (B3) (Riv	
High Wa	iter Table (A2)			ust (B12)			ainage Patterns (B10	
Saturatio				invertebrates (B			-Season Water Tabl	
Water N	iarks (B1) (Nonriver		Hydroge	n Sulfide Odor (	C1)		n Muck Surface (C7)	
	nt Deposits (B2) (No			I Rhizospheres a			ayfish Burrows (CB)	,
	posits (B3) (Nonrive			e of Reduced in		-	turation Visible on Ar	riat Imagen/ (C ^q
Surface	Soil Cracks (B6)			ron Reduction ir			turation visible on Ai aliow Aquitard (D3)	sharimayery (Op
Inundati	on Visible on Aerial i	Imagery (Bi	7) Other (E	xplain in Remar	ks)		C-Neutral Test (D5)	
	stained Leaves (B9)				·····	F8		
Field Obser	vations:		/					
Surface Wat	ter Present? Y		No <u>^</u> Depth (		,			/
Water Table	Present? Y		No//Depth (			١		/
Saturation P	resent?		No Depth'(				Present? Yes	No <u></u>
Describe Re	pillary fringe) ecorded Data (stream	n gauge, mo	onitoring well, aeria	al photos, previo	us inspection	ns), if available:		
Remarks:	<i>.</i>	C d	100					
OHWM	Hidd coutors - (	ON BURNING	-11-					

Soil Composition - Grand, coloble, riprop.

F-I.1-171

#### WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site:	City/County: <u>60000 RevviceBite</u> Sampling Date: <u>31/4/08</u> State: <u>60</u> Sampling Point: <u>64-7</u>
Investigator(s): <u>5. Holson</u> , <u>5. holind halt</u> Landform (hillslope, terrace, etc.): <u>Valla</u> , <u>FIDO</u>	Section, Township, Range:
Soil Map Unit Name: NAME Are climatic / hydrologic conditions on the site typical for this time of y	NWI classification:         Description:         Description: <thdescription:< th="">         Description:         Descrip</thdescription:<>
Are Vegetation <u>ND</u> , Soil <u>or Hydrology</u> significantly Are Vegetation <u>NS</u> , Soil <u>or Hydrology</u> naturally pr	

#### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soll Present? Wetland Hydrology Present?	Yes No/_ Yes No/_ Yes No/_	is the Sampled Area within a Wetland?	Yes No
Remarks:		OHUM w 3' k 3'' 54:1	8846 N

#### VEGETATION

	Absolute	Dominant	Indicator	Dominance Test worksheet:	}
Tree Stratum (Use scientific names.)		Species?	_Status_	Number of Dominant Species	
1				That Are OBL, FACW, or FAC: $\underbrace{-\Psi}_{I}$ (A)	
2				Total Number of Dominant	
.3		·		Species Across All Strata: <u>'7</u> (B)	
4				Percent of Dominant Species	
Total Cover:	<u>_Ø_</u>			That Are OBL, FACW, or FAC: $\underline{\varphi}$ (Are	3)
Sapling/Shrub Stratum	· 	J	WPL NL	Prevalence Index worksheet:	
1: Erio, Olduna Fasciculatur	<u> </u>		32. 191	Total % Cover of: Multiply by:	
2. Hymenoclea salcola	7	<u> </u>	when when		ł
3. Lycium Coopen!	4	<u> </u>	why se		
4. Foledra ulieli	_5	<u>N</u>	WAL ML	FACW species x 2 =	
4. Epledra virili 5. Ericower lavicitation	4		offer	FAC species x 3 =	
Total Cover	27		İ	FACU species x 4 =	
Herb Stratum				FACU species $44 = $ UPL species $44 = $ Column Totals: $44 = $ (A) $220$ (B)	
1. B. tectoinm	io	<u> </u>			)
2. Erodium clantarium		Ľ_	ITT N		
3. Aristida: phroman	~	<u>h</u>	1397-AIL		
4. Achnatherum speciasan.		<u>N</u>	DPTM	-Hydrophytic Vegetation Indicators:	
5				Dominance Test is >50%	
6.			- · ·	Prevalence Index is ≤3.0 ¹	
7	•			Morphological Adaptations ¹ (Provide supporting	
		<u></u>		data in Remarks or on a separate sheet)	
8Total Cover	17			Problematic Hydrophytic Vegetation ¹ (Explain)	
Voody Vine Stratum	:	-			
1				¹ Indicators of hydric soil and wetland hydrology must	
	•			be prasent.	
2Total Cover	Ø			Hydrophytic	
		rust		Vegetation Present? Yes No	
% Bare Ground in Herb Stratum <u>83</u> % Cover		1081 <u></u>			
Remarks:					
		F-I.1-172			

SOIL

Sampling Point: (64-7)

OIL	oth needed to document the indicator or co	onfirm the absence of indicators.)
	Bodoy Lestures	
Depth <u>Matrix</u> inches) Color (moist) %	Color (moist) % Type1 Lo	oc ² Texture Remarks
inches) <u>Color (moist)</u> <u>%</u>		ava vel
8 10YR 4/5		
	A=Reduced Matrix ² Location: PL=Pore Li	ning, RC=Root Channel, M=Matrix.
ype: C=Concentration, D=Depletion, Ri ydric Soil Indicators: (Applicable to a	ILLERS, unless otherwise noted.)	Indicators for Problematic Hydric Solis .
	Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
_ Histosol (A1)	Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
Histic Epipedon (A2)	Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
Black Histic (A3)	Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
Hydrogen Sulfide (A4)	Depleted Matrix (F3)	Other (Explain in Remarks)
Stratified Layers (A5) (LRR C) 1 cm Muck (A9) (LRR D)	Redox Dark Surface (F6)	
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	
Thick Dark Surface (A12)	Redox Depressions (F8)	3
Sandy Mucky Mineral (S1)	Vernal Pools (F9)	Indicators of hydrophytic vegetation and wetland hydrology must be present.
Sandy Gleyed Matrix (S4)		Wettand hydrology must be present
Restrictive Layer (if present):		
Туре:		Itudeia Soli Procent? Yes NO
Depth (inches):		Hydric Soil Present? Yes No/
Remarks:		
YDROLOGY	· · · · · · · · · · · · · · · · · · ·	Secondary Indicators (2 or more required)
Wetland Hydrology Indicators:		Water Marks (B1) (Riverine)
Primary Indicators (any one indicator is s	ufficlent)	Sediment Deposits (B2) (Riverine)
Surface Water (A1)	Salt Crust (B11)	Drift Deposits (B3) (Riverine)
High Water Table (A2)	Biotic Crust (B12)	Drainage Patterns (B10)
Saturation (A3)	Aquatic Invertebrates (B13)	Dry-Season Water Table (C2)
Water Marks (B1) (Nonriverine)	Hydrogen Suifide Odor (C1)	
Sediment Deposits (B2) (Nonriverin	ne) Oxidized Rhizospheres along Li	
Orift Deposits (B3) (Nonriverine)	Presence of Reduced from (C4)	
Surface Soil Cracks (B6)	Recent Iron Reduction in Plowe	
Inundation Visible on Aerial Imagen	(B7) Other (Explain in Remarks)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)		FAC-Neutral Test (D5)
Field Observations'		-
	No Depth (inches):	
	No Depth (inches):	_] /
	No Depth (inches):	Wetland Hydrology Present? Yes No <u>\/</u>
(includes capillary fringe)	, monitoring well, aerial photos, previous insp	pections), if available:
Describe Decorded Data (chorus 3443-		
Remarks:		
	F-I.1-173	
All IN T. L'emplot	confiel, (L, (S, LSD, S)	
I THWM I. OIZUETU	and the second s	

WETLAND	DETERMINATION	DATA I	FORM –	Arid W	Vest Re	glon
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	_ City/County: Sun Reprint Sive Sampling Date: 3/14/08 State: 14 Sampling Point: 64-3
applicant/Owner: Circle Point	
Investigator(s): 5. Holson, J. Windbalt	Section, Township, Range;
Londform (bilisione terrace etc.): Valla, Floor	Local relief (concave, convex, none): <u>for cast</u> Slope (%): <u>2%</u>
Subregion (LRR): D	J-115,607487 - tong: N 35,468233 Datum: NAD 83
Soil Map Unit Name: 24	
Are climatic / hydrologic conditions on the site typical for this time of	year? Yes No (If no, explain in Remarks.)
	tly disturbed? Are "Normal Circumstances" present? Yes No
	problematic? (If needed, explain any answers in Remarks.)

#### SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes No Yes No Yes No	Is the Sampled Area within a Wetland?	Yes No
Remarks:		0HWH w - 50' h - 6'' 5- 2:1	Perolog 8848 - South 9549 - North

#### VEGETATION

	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Use scientific names.) 1		<u>Species?</u>	<u>Status</u>	Number of Dominant Species A (A)
3.				Total Number of Dominant Species Across All Strata:
4Total Cove			FAC	Percent of Dominant Species
<u>Sapling/Shrub Stratum</u> 1. <u>Baccharis Satiflyoides</u> 2. <u>Hyminoclea Salsola</u>	<u>- 25</u> 4	<u> </u>	UH ALL	Prevalence Index worksheet: Total % Cover of: Multiply by:
3				OBL species x 1 = FACW species x 2 =
4				FAC species $25$ x 3 = $\frac{75}{15}$
Total Cove	er: <u>79</u>	- U	HPE NL	UPL species 337 x 5 = 405 35
1. Fradium Clataining		<u> </u>	SPE (FA	(1) \$ 3.45
3 Erinkeuron omlahellum 4. C= S. Kall or.			<u>bqr</u> ui ACUT)	Hydrophytic Vegetation Indicators:
5. <u>S. pestifer</u>		(	FACU)	Dominance Test is >50% Prevalence index is ≤3.0 ¹
7			·	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8 Total Cove	er: <u>4</u>			Problematic Hydrophytic Vegetation ¹ (Explain)
<u>Woody Vine Stratum</u> 1				¹ Indicators of hydric soil and wetland hydrology must be present.
2	er of Biotic (		T	Hydrophytic Vegetation Present? Yes No
Remarks:	,			

1866 2289900 166467

SIL						Sampling Point: <u>(45</u>
CL. Dec.	wintion, (Describe f	o the depth r	needed to docur	ment the indicator or	confirm the absence	of indicators.)
	Matrix		Dodo	v Lostifes		Remarks
epth nches)	Color (moist)	%	Color (moist)	%Type	oc ² <u>Texture</u>	
156+	1011		412		Said Herow	<u> </u>
10.						
		<u></u>				
		·				
;			<u></u>			
	<u> </u>		<u></u>			
	Concentration, D=Dep	letion. RM=R	educed Matrix.	² Location: PL=Pore I	ining, RC=Root Char	nnel, M=Matrix. s for Problematic Hydric Soils ³ :
vdric Soii	Indicators: (Applic	able to all LF	Rs, unless othe	erwise noted.)		
Histoso			Sandy Rec	JOX (50)	1 cm	Muck (A9) (LRR C) Muck (A10) (LRR B)
	Epipedon (A2)		Stripped N	Aatrix (S6)		iced Vertic (F18)
Black t	listic (A3)		Loamy Mu	icky Mineral (F1) eyed Matrix (F2)	Red	Parent Material (TF2)
Hydrog	jen Sulfide (A4)	c)	Depleted I		Othe	r (Explain in Remarks)
Stratifi	ed Layers (A5) (LRR I	6)	Redox Da	rk Surface (F6)		
1 cm N	/luck (A9) (LRR D) ed Below Dark Surfac	e (A11)	Depleted I	Dark Surface (F7)		
Depier Thick [	Dark Surface (A12)		Redox De	pressions (F8)	³ le dission	rs of hydrophytic vegetation and
Sandy	Mucky Mineral (S1)		Vernal Po	ols (F9)	undicator wetłar	nd hydrology must be present.
Sandy	Gleyed Matrix (S4)					
Restrictive	e Layer (if present):				ļ	
Туре: _		· · · · · · · · · · · · · · · · · · ·	<u> </u>		Hydric Sc	oil Present? Yes No
	· · · · · · ·					
Depth (	inches):					
Depth ( Remarks:	Inches):					
	inches):					
	inches):					
Remarks:						renders (2 or more required)
Remarks:	OGY					condary Indicators (2 or more required)
Remarks: YDROL Wetland H	OGY lydrology indicators	51	ient)			Water Marks (B1) (Riverine)
Remarks: YDROL Wetland H Primary In	OGY lydrology indicators dicators (any one ind	51	Salt Cru			Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine)
YDROL Vetland F Surfa	OGY lydrology indicators dicators (any one ind ce Water (A1)	51	Salt Cru Biotic C	rust (B12)		Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine)
YDROL Vetland H Primary In Surfa High	OGY lydrology Indicators dicators (any one ind ce Water (A1) Water Table (A2)	51	Salt Cru Biotic C Aquatic	rust (B12) Invertebrates (B13)		Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10)
Remarks: YDROL Wetland H Primary In Surfau High V Satur Wate	OGY Hydrology Indicators dicators (any one ind ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) (Nonrive	s: icator is suffic erine)	Salt Cru Biotic C Aquatic	rust (B12) Invertebrates (B13)	<u>Ser</u>	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2)
Remarks: YDROL Wetland F Primary In Surfar High V Satur Satur Satur Satur Satur	OGY tydrology Indicators dicators (any one indicators ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) (Nonrive ment Oeposits (B2) (N	erine) lonriverine)	Salt Cru Biotic C Aquatic Hydrogu Oxidize	rust (B12) Invertebrates (B13) en Sulfide Odor (C1) d Rhizospheres along I	iving Roots (C3)	Water Marks (B1) ( <b>Riverine</b> ) Sediment Deposits (B2) ( <b>Riverine</b> ) Drift Deposits (B3) ( <b>Riverine</b> ) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7)
Remarks: YDROL Vetland f Primary In Surfar High Satur Satur Satur Satur Satur	OGY lydrology indicators dicators (any one ind ce Water (A1) Water Table (A2) ation (A3)	erine) lonriverine)	Salt Cru Biotic C Aquatic Hydrogu Oxidize Presenu	rust (B12) Invertebrates (B13) en Sulfide Odor (C1) d Rhizospheres along I ce of Reduced Iron (C4		Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8)
Remarks: YDROL YDROL Wetland I Primary In Surfar High V Satur Wate Sedin Drift I Surfa	OGY lydrology Indicators dicators (any one indi- ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) (Nonrive nent Oeposits (B2) (No Deposits (B3) (Nonrive ce Soil Cracks (B6)	erine) Ionriverine) Verine)	Salt Cru Biotic C Aquatic Hydrogu Oxidize Presenu Recent	rust (B12) Invertebrates (B13) en Sulfide Odor (C1) d Rhizospheres along I ce of Reduced Iron (C4 Iron Reduction in Plow		Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (
Remarks: YDROL Wetland H Primary In Surfau High V Satur Wate Sedin Drift I Surfau Inunc	OGY lydrology Indicators dicators (any one ind ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) (Nonrive nent Oeposits (B2) (N Deposits (B3) (Nonriv ce Soil Cracks (B6) lation Visible on Aeria	erine) lonriverine) verine)	Salt Cru Biotic C Aquatic Hydrogu Oxidize Presenu Recent	rust (B12) Invertebrates (B13) en Sulfide Odor (C1) d Rhizospheres along I ce of Reduced Iron (C4		Water Marks (B1) ( <b>Riverine</b> ) Sediment Deposits (B2) ( <b>Riverine</b> ) Drift Deposits (B3) ( <b>Riverine</b> ) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8)
Remarks: YDROL Wetland F Primary In Surfar High V Satur Vate Sedin Drift I Surfar Ununc Wate	OGY tydrology Indicators dicators (any one indi- ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) (Nonrive nent Oeposits (B2) (No Deposits (B3) (Nonrive ce Soil Cracks (B6) dation Visible on Aeria r-Stained Leaves (B9)	erine) lonriverine) verine)	Salt Cru Biotic C Aquatic Hydrogu Oxidize Presenu Recent	rust (B12) Invertebrates (B13) en Sulfide Odor (C1) d Rhizospheres along I ce of Reduced Iron (C4 Iron Reduction in Plow		Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C Shallow Aquitard (D3)
Remarks: YDROL Wetland H Primary In Surfar High V Satur Wate Sedin Drift I Surfar Mate Field Obs	OGY lydrology indicators dicators (any one indi- ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) (Nonrive nent Oeposits (B2) (No- Deposits (B3) (Nonrive ce Soil Cracks (B6) lation Visible on Aeria r-Stained Leaves (B9) servations:	erine) lonriverine) verine) al imagery (B7	Salt Cru Biotic C Aquatic Hydrogu Oxidize Presenu Recent Other (	rust (B12) Invertebrates (B13) en Sulfide Odor (C1) id Rhizospheres along I ce of Reduced Iron (C4 Iron Reduction in Plow Explain in Remarks)		Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C Shallow Aquitard (D3)
Remarks: YDROL Wetland F Primary In Surfau Satur Sedin Drift I Surfa Field Obs Surface V	OGY lydrology indicators dicators (any one indi- ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) (Nonrive nent Oeposits (B2) (No- Deposits (B3) (Nonrive ce Soil Cracks (B6) dation Visible on Aeria sr-Stained Leaves (B9) servations: Vater Present?	erine) lonriverine) verine) al imagery (B7	Salt Cru Biotic C Aquatic Hydrogu Oxidize Presenu Recent r) Other ( 	rust (B12) Invertebrates (B13) en Sulfide Odor (C1) id Rhizospheres along l ce of Reduced Iron (C4 Iron Reduction in Plow Explain in Remarks)		Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C Shallow Aquitard (D3)
Remarks: YDROL Wetland F Primary In Surfac Wate Sedin Drift I Surface V Water Ta	OGY Hydrology Indicators dicators (any one indi- ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) (Nonrive nent Oeposits (B2) (N Deposits (B3) (Nonrive ce Soil Cracks (B6) fation Visible on Aeria r-Stained Leaves (B9 servations: Vater Present? ble Present?	erine) lonriverine) verine) al imagery (87 )) Yes 1	Salt Cru Biotic C Aquatic Hydrogu Oxidize Recent Recent Other (I  NoDepth NoDepth	rust (B12) Invertebrates (B13) en Sulfide Odor (C1) id Rhizospheres along I ce of Reduced Iron (C4 Iron Reduction in Plow Explain in Remarks) (inches):		Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C Shallow Aquitard (D3) FAC-Neutral Test (D5)
Remarks: YDROL Wetland F Primary In Surfau High V Satur Wate Surfa Ununc Wate Field Obs Surface V Water Ta Saturatio	OGY Hydrology Indicators dicators (any one indi- ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) (Nonrive nent Oeposits (B2) (No- Deposits (B3) (Nonrive ce Soil Cracks (B6) fation Visible on Aeria r-Stained Leaves (B9) servations: Vater Present? ble Present? n Present?	erine) lonriverine) verine) al imagety (B7 ) Yes i Yes i	Salt Cru Biotic C Aquatic Hydrogu Oxidize Presenu Recent Recent Other (  No Depth No Depth	rust (B12) Invertebrates (B13) en Sulfide Odor (C1) id Rhizospheres along l ce of Reduced Iron (C4 Iron Reduction in Plow Explain in Remarks) (inches): (inches):	iving Roots (C3) ed Soils (C6)    Wetland Hydro	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C Shallow Aquitard (D3) FAC-Neutral Test (D5)
Remarks: YDROL Wetland F Primary In Surfau High V Satur Wate Surfa Ununc Wate Field Obs Surface V Water Ta Saturatio	OGY Hydrology Indicators dicators (any one indi- ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) (Nonrive nent Oeposits (B2) (No- Deposits (B3) (Nonrive ce Soil Cracks (B6) fation Visible on Aeria r-Stained Leaves (B9) servations: Vater Present? ble Present? n Present?	erine) lonriverine) verine) al imagety (B7 ) Yes i Yes i	Salt Cru Biotic C Aquatic Hydrogu Oxidize Presenu Recent Recent Other (  No Depth No Depth	rust (B12) Invertebrates (B13) en Sulfide Odor (C1) id Rhizospheres along l ce of Reduced Iron (C4 Iron Reduction in Plow Explain in Remarks) (inches): (inches):	iving Roots (C3) ed Soils (C6)    Wetland Hydro	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery ( Shallow Aquitard (D3) FAC-Neutral Test (D5)
Remarks: YDROL Wetland F Primary In Surfau High V Satur Wate Surfa Ununc Wate Field Obs Surface V Water Ta Saturatio	OGY Hydrology Indicators dicators (any one indi- ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) (Nonrive nent Oeposits (B2) (No- Deposits (B3) (Nonrive ce Soil Cracks (B6) fation Visible on Aeria r-Stained Leaves (B9) servations: Vater Present? ble Present? n Present?	erine) lonriverine) verine) al imagety (B7 ) Yes i Yes i	Salt Cru Biotic C Aquatic Hydrogu Oxidize Presenu Recent Recent Other (  No Depth No Depth	rust (B12) Invertebrates (B13) en Sulfide Odor (C1) id Rhizospheres along I ce of Reduced Iron (C4 Iron Reduction in Plow Explain in Remarks) (inches):	iving Roots (C3) ed Soils (C6)    Wetland Hydro	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery ( Shallow Aquitard (D3) FAC-Neutral Test (D5)
Remarks: YDROL Vetland F Primary In Surfar High V Satur Vate Surfar Field Obs Surface V Water Ta Saturatio (includes Describe	OGY lydrology indicators dicators (any one indi- ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) (Nonrive nent Oeposits (B2) (No- Deposits (B3) (Nonrive ce Soil Cracks (B6) iation Visible on Aeria r-Stained Leaves (B9) servations: Vater Present? ble Present? n Present? capillary fringe) Recorded Data (stream)	s: jcator is suffic erine) conriverine) rerine) al imagery (B7 )) Yes f Yes f Yes f Yes f am gauge, mo	Salt Cru Biotic C Aquatic Hydrogu Oxidize Recent Recent Recent Other ( NoDepth NoDepth NoDepth ponitoring well, aer	rust (B12) Invertebrates (B13) en Sulfide Odor (C1) id Rhizospheres along l ce of Reduced Iron (C4 Iron Reduction in Plow Explain in Remarks) (inches): (inches): (inches): rial photos, previous Inst	iving Roots (C3) ed Soils (C6)    Wetland Hydro	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery ( Shallow Aquitard (D3) FAC-Neutral Test (D5)

#### WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: DSX C	ity/County: <u>San Busing Alin</u> Sampling Date: <u>3/14/38</u> State: (A Sampling Point: 55-1
Siller TI l'allalt	ection Township Range:
in any company the Stadf in 1	ocal relief (concave, convex, none); concave, slope (%); and
Subracion (IPR): D tat: N -	115,55532 tong N 33,47152 Datum: NAV 83
	NWI classification: N/A ZONE !!
Are climatic / hydrologic conditions on the site typical for this time of yea	2 Yes No (If no, explain in Remarks.)
Are Vegetation <u>No</u> , Soil , or Hydrology <u>significantly</u>	isturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation 100, Soil, or Hydrology significantly of Are Vegetation 100, Soil, or Hydrology naturally prob	
SUMMARY OF FINDINGS – Attach site map showing	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	is the Sampled Area
Hydric Soil Present? Yes No V	within a Wetland? Yes No
Wetland Hydrology Present? Yes No	BHUILI width 10 fr flood
Remarks:	height (0) 8831
	slope 211 / 8832
VEGETATION	
Absolute	Dominant Indicator Dominance Test worksheet:
Tree Stratum         (Use scientific names.)         % Cover           1.	Species? Status Number of Dominant Species (A)
2	
3	Species Across All Strata: (B)
4 Total Cover:	Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
Dearly - Charles Charles	A # /
1. Ericameria laricifalia 3	
2	
3	
4	FAC species x 3 =
5	FACU species x 4 =
	NL LIPI species 5 x5 = 25
1. Erodium cicutarium 2	<u>Y</u> <u>UFL</u> Column Totals: <u>5</u> (A) <u>25</u> (B)
2	Prevalence Index = 8/A = 5
3	Hydrophytic Vegetation Indicators:
5	Dominance rest is >50%
6.	
7	data in Remarks or on a separate sheet)
8	Problematic Hydrophytic Vegetation ¹ (Explain)
Total Cover:	
2	
Total Cover:	- Vegetation
% Bare Ground in Herb Stratum 98 % Cover of Biotic C	rust Present? Yes No
Remarks: P. bicolor on edge of bank,	
	F-I.1-176
	a algera, wakan alam daran daran ang ang ang ang ang ang ang ang ang a

						Sampling Point: 65-
Profile Deen	ription: (Describe to the dep	h needed to docu	ment the indic	ator or confirm	m the absence o	of indicators.)
	Matrix	Read	X reatures			Remarks
Depth (inch <u>es)</u>	Color (moist) %	Color (moist)	<u>%                                    </u>	ype ¹ Loc ²		
/¶″	10 YR	4/2		·	Grave	
					<del></del>	
				<u> </u>		
<u></u>	· · · · · · · · · · · · · · · · · · ·					
					RC=Root Chang	nel, M=Matrix.
Гуре: С=С	oncentration, D=Depletion, RM	=Reduced Matrix.	-Locauon: r		Indicators	for Problematic Hydric Soils ³ :
lydric Soil	Indicators: (Applicable to all	LKKS, Unless out	dov (95)	,	1 cm N	1uck (A9) (LRR C)
Histoso		Sandy Rei Stripped N	Jon (55) Aatrix (56)		2 cm N	/uck (A10) (LRR B)
	pipedon (A2)	Supped M	ucky Mineral (F	-1)	Reduc	ed Vertic (F18)
Black H	istic (A3)	Loamy Gl	eyed Matrix (F	2)	Red P	arent Material (TF2)
Hydrog	en Sulfide (A4) d Layers (A5) (LRR C)	Depleted	Matrix (F3)		Other	(Explain in Remarks)
Stratine	Jck (A9) (LRR D)	Redox Da	irk Surface (F6	5) 		
Deplete	d Below Dark Surface (A11)	Depleted	Dark Surface (	(F7)		
Thick D	ark Surface (A12)	Redox De	epressions (F8)	)	³ Indicators	of hydrophytic vegetation and
Sandy	Mucky Mineral (S1)	Vernal Po	iols (F9)		wetiand	I hydrology must be present.
Sandy	Gleyed Matrix (S4)			<u> </u>		
	Layer (if present):				1	
Type:					Hydric Sol	l Present? Yes No
Depth (i	nches):					
Remarks:						
				<u></u>		
						ondary Indicators (2 or more required)
Wetland H	ydrology Indicators:					Water Marks (B1) (Riverine)
Wetland H	ydrology Indicators: licators (any one indicator is su	ifficient)	1st (B11)			Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine)
Wetland H Primary Inc Surfac	ydrology Indicators: licators (any one indicator is su e Water (A1)	Salt Cri	ust (B11) Crust (B12)			Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine)
Wetland H Primary Inc Surfac High V	ydrology Indicators: licators (any one indicator is su e Water (A1) /ater Table (A2)	Salt Cru Blotic C	Crust (812)	(B13)		Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10)
Wetland H Primary Inc Surfac High V Satura	ydrology Indicators: licators (any one Indicator is su e Water (A1) /ater Table (A2) tion (A3)	Salt Cru Biotic C Aquatic Hydrog	Crust (B12) 5 Invertebrates 3en Sulfide Odo	or (C1)		Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2)
Wetland H Primary Inc Surfac High V Satura Water	ydrology Indicators: licators (any one indicator is su e Water (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonriverine)	Salt Cru Blotic C Aquatic Hydrog	Crust (B12) 5 Invertebrates 3en Sulfide Odo	or (C1)	Roots (C3)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7)
Wetland H Primary Inc Surfac High V Satura Water Sedim	ydrology Indicators: licators (any one indicator is su e Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonriverine) ent Deposits (B2) (Nonriverine)	Salt Cro Biotic C Aquatic Hydrog a) Oxidize	Crust (812) : Invertebrates jen Sulfide Odo ed Rhizosphero	or (C1) es along Living	Roots (C3)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8)
Wetland H Primary Ing Surfac High V Satura Water Sedim Drift D	ydrology Indicators: licators (any one Indicator is su e Water (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonriverine) ent Deposits (B2) (Nonriverine) eposits (B3) (Nonriverine)	Salt Cru Blotic C Aquatic Hydrog e) Oxidize Presen	Crust (812) c Invertebrates yen Sulfide Odd ed Rhizosphere nce of Reduced	or (C1) es along Living d Iron (C4)	Roots (C3)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (
Wetland H Primary Ing Surfac High V Satura Water Sedim Drift D Surfac	ydrology Indicators: licators (any one Indicator is su e Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonriverine) ent Deposits (B2) (Nonriverine) eposits (B3) (Nonriverine) ea Soil Cracks (B6)	Salt Cru Biotic C Aquatic Hydrog e) Oxidize Presen Recent	Crust (B12) o Invertebrates yen Sulfide Odd ed Rhizosphere nce of Reduced t Iron Reductio	or (C1) es along Living d Iron (C4) on in Plowed So	Roots (C3)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery ( Shallow Aquitard (D3)
Wetland H Primary Inc Surfac High V Satura Water Sedirr Drift D Surfac	ydrology Indicators: licators (any one indicator is su e Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonriverine) ent Deposits (B2) (Nonriverine) eposits (B3) (Nonriverine) e Soil Cracks (B6) ation Visible on Aerial Imagery	Salt Cru Biotic C Aquatic Hydrog e) Oxidize Presen Recent	Crust (812) c Invertebrates yen Sulfide Odd ed Rhizosphere nce of Reduced	or (C1) es along Living d Iron (C4) on in Plowed So	Roots (C3)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (
Wetland H Primary Inc Surfac High V Satura Water Sedim Drift D Surfac Inund	ydrology Indicators: licators (any one Indicator is su e Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonriverine) ent Deposits (B2) (Nonriverine) eposits (B3) (Nonriverine) es Soil Cracks (B6) ation Visible on Aerial Imagery -Stained Leaves (B9)	Salt Cru Biotic C Aquatic Hydrog e) Oxidize Presen Recent	Crust (B12) o Invertebrates yen Sulfide Odd ed Rhizosphere nce of Reduced t Iron Reductio	or (C1) es along Living d Iron (C4) on in Plowed So	Roots (C3)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery ( Shallow Aquitard (D3)
Primary Ind Surface High V Satura Water Sedim Drift D Surface Inund Field Obs	ydrology Indicators: licators (any one Indicator is sue e Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonriverine) ent Deposits (B2) (Nonriverine) eposits (B3) (Nonriverine) es Soil Cracks (B6) ation Visible on Aerial Imagery -Stained Leaves (B9) ervations:	Salt Cru Biotic C Aquatic Hydrog Oxidize Presen Recent (B7) Other (	Crust (B12) c Invertebrates gen Sulfide Odd ed Rhizosphere nee of Reduced t Iron Reductio (Explain in Rer	or (C1) es along Living d Iron (C4) on in Plowed So marks)	Roots (C3)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery ( Shallow Aquitard (D3)
Wetland H Primary Ing Surface High V Satura Vater Sedirr Drift D Surface Surface W	ydrology Indicators: licators (any one indicator is sue e Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonriverine) ent Deposits (B2) (Nonriverine) eposits (B3) (Nonriverine) es Soil Cracks (B6) ation Visible on Aerial Imagery -Stained Leaves (B9) ervations: fater Present? Yes	Salt Cru Blotic C Aquatic Hydrog Oxidize Presen Recent (B7)Other ( 	Crust (B12) c Invertebrates gen Sulfide Odd ed Rhizosphere nce of Reduced t Iron Reductio (Explain in Rer	or (C1) es along Living d Iron (C4) on in Plowed So marks)	Roots (C3)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery ( Shallow Aquitard (D3) FAC-Neutral Test (D5)
Wetland H Primary Inc Surfac High V Satura Water Sedim Drift D Surfac Inund Field Obs Surface W Water Tat	ydrology Indicators: licators (any one Indicator is sue e Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonriverine) ent Deposits (B2) (Nonriverine) eposits (B3) (Nonriverine) es Soil Cracks (B6) ation Visible on Aerial Imagery -Stained Leaves (B9) ervations: ater Present? Yes le Present? Yes	Salt Cru Blotic C Aquatic Hydrog Oxidize Presen Recent (B7) Other (  No Deptt No Deptt	Crust (B12) c Invertebrates gen Sulfide Odd ed Rhizosphere nee of Reduced t Iron Reductio (Explain in Rer n (inches): n (inches):	or (C1) es along Living d Iron (C4) on in Plowed So marks)	Roots (C3)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery ( Shallow Aquitard (D3) FAC-Neutral Test (D5)
Wetland H Primary Inc Surfac High V Satura Water Sedim Drift D Surface Field Obs Surface W Water Tat Saturation	ydrology Indicators: licators (any one Indicator is sue e Water (A1) Vater Table (A2) tion (A3) Marks (B1) (Nonriverine) ent Deposits (B2) (Nonriverine) eposits (B3) (Nonriverine) es Soil Cracks (B6) ation Visible on Aerial Imagery -Stained Leaves (B9) ervations: ater Present? Yes le Present? Yes	Satt Cru Blotic C Aquatic Hydrog e)Oxidize Presen Recent (B7)Other (  NoDepth NoDepth NoDepth	Crust (B12) c Invertebrates gen Sulfide Odd ed Rhizosphere nce of Reduced t Iron Reductio (Explain in Rer n (inches): n (inches):	or (C1) es along Living d Iron (C4) on in Plowed So marks)	Roots (C3)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery ( Shallow Aquitard (D3) FAC-Neutral Test (D5)

Remarks: OHWM Indicutures - Confliked, pc, tv, 5d, 5, Cl Substrate Composition. Gravel F-1.1-177 Remarks:

#### WETLAND DETERMINATION DATA FORM – Arid West Region

WEILAND DETERMINA					
Project/Site:	City/Cou	unty: <u>6ano</u>	Bernar & Wa	_ Sampling Date: 3/14/	108
Applicant/Owner: CITCLL Birt			State: <u></u> A	_ Sampling Point:( <u>バー</u> ス_	
Investigator(s): JU, JH	Section		14 ·	····	
Landform (hillslope, terrace, etc.):	_ Local rr	elief (concave, d	convex, none):	CCLIAA Slope (%):	5/2
Subregion (LRR):		554488	-10000: N 35,471	δII Datum: NAO	83
Soil Map Unit Name: <u>NA</u>		/	NWI classif		ONE
Are climatic / hydrologic conditions on the site typical for this time of	f vear? Yes			1° /	
Are Vegetation, Soil, or Hydrology significar				present? Yes 1 No	
Are Vegetation ND, Soll or Hydrology and naturally			eded, explain any answ		
		•			
SUMMARY OF FINDINGS – Attach site map showi	ng samp	ling point lo	ocations, transect	s, important features,	etc.
Hydrophytic Vegetation Present?       Yes No         Hydric Soil Present?       Yes No         Wetland Hydrology Present?       Yes No		s the Sampled vithin a Wetlar	nd? Yes	No	
Remarks:		OW HM	: w 6' Photos: h 6'' S Z:1	8134: S 9135:NE	
/EGETATION					
Absolu		ant Indicator	Dominance Test wor	ksheet:	
Tree Stratum (Use scientific names.) <u>% Cov</u>	<u>ver Specie</u>	es7 <u>Status</u>	Number of Dominant		
1	<u>,,,,</u>	<u></u>	That Are OBL, FACW	, of FAC: (	(A)
2			Total Number of Domi Species Across All Str		(B)
3					
Total Cover:	·		Percent of Dominant S That Are OBL, FACW		(A/B)
Sapling/Shrub Stratum	J	NL	Prevalence Index wo	,	
1. Hamenoclea. Salsala. 5		- OTC NG	Total % Cover of:		
2. Ambrasia evidiatro 5	<u> </u>	- topen		x 1 =	
3. <u>Ericameria laricitalia</u> 3			· ·	x 2 =	
4				x3 =	
5 Total Cover: 1.3		<u> </u>	FACU species	x 4 =	
Herb Stratum	<u> </u>	•.	UPL species	<u>ג ד x5= א</u>	
1. Erodium ricutation 1	<u> </u>	- OFUNE	Column Totais: 15	(A) <u>75</u>	(B)
2. Aristida Phypinke for	1 1	r ulla		5	
3			Prevalence inde		
4			Hydrophytic Vegetat		
5			Dominance Test i		
6		<u> </u>	Prevalence Index	ns ≤3.0° aptations¹ (Provide supportir	
7			data in Remar	aptations - (Provide supportin ks or on a separate sheet)	ia.
87	<u></u>		Problematic Hydr	ophytic Vegetation ¹ (Explain)	)
Woody Vine Stratum					
1			¹ Indicators of hydric s be present.	oil and wetland hydrology mu	ust

1			
	Hydrophytic		
į	Vegetation		
	Present?	Yes	No.

 $\checkmark$ 

Remarks:

% Bare Ground in Herb Stratum

2.

Total Cover: Ø

92

% Cover of Biotic Crust _____

		A	
Sampling	Point:	(5)	0~
Janping	1 01111		

n di Nastriv	oth needed to document the indicator or confin Redox Features	Texture Remarks
Depth <u>Matrix</u> (inches) <u>Color (moist)</u> %	Redox Features Color (moist) % Type ¹ Loc ²	
$\frac{(  c  es )}{  c  es } = \frac{ c  c }{  c  es } = \frac{ c  c }{  c  es }$		gravel
12 101/151/2		
·		
	M=Reduced Matrix. ² Location: PL=Pore Lining.	RC=Root Channel, M=Matrix.
Type: C=Concentration, D=Depletion, RI	M=Reduced Matrix. Location, PL-1 ore Emilion	Indicators for Problematic Hydric Soils ³ :
Type: C=Concentration, D=Depleton, N Hydric Soil Indicators: (Applicable to a	III LINNA, UNICOC CURTING	1 cm Muck (A9) (LRR C)
Histosol (A1)	Sandy Redox (SS)	2 cm Muck (A10) (LRR B)
Histic Epipedon (A2)	Stripped Matrix (S6)	Reduced Vertic (F18)
Black Histic (A3)	Loamy Mucky Mineral (F1)	Red Parent Material (TF2)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3)	
1 cm Muck (A9) (LRR D)	Redox Dark Surface (F6)	
Depleted Below Dark Surface (A11)	_ Depleted Dark Surface (F / )	
Thick Dark Surface (A12)		³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Vernal Pools (F9)	wetland hydrology must be present.
Sandy Gleyed Matrix (S4)		
Restrictive Layer (if present):		
Type:		No Vie No V
type		Hydric Soil Present? Yes No
Depth (inches):		
HYDROLOGY		
		Secondary Indicators (2 or more required
Wetland Hydrology Indicators:		
Wetland Hydrology Indicators:	sufficient)	Water Marks (B1) (Riverine)
Wetland Hydrology Indicators: Primary Indicators (any one indicator is s	sufficient) Salt Crust (B11)	Water Marks (B1) (Riverine)
Wetland Hydrology Indicators: Primary Indicators (any one indicator is s Surface Water (A1)	sufficient) Salt Crust (B11)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine)
Wetland Hydrology Indicators: <u>Primary Indicators (any one Indicator is s</u> Surface Water (A1) High Water Table (A2)	sufficient) Salt Crust (B11) Biotic Crust (B12)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10)
Wetland Hydrology Indicators: Primary Indicators (any one indicator is s Surface Water (A1) High Water Table (A2) Saturation (A3)	sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2)
Wetland Hydrology Indicators: Primary Indicators (any one indicator is s Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine)	sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7)
Wetland Hydrology Indicators: Primary Indicators (any one indicator is a Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine)	sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8)
Wetland Hydrology Indicators: Primary Indicators (any one indicator is s Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine)	sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7) Crayfish Burrows (C8)
Wetland Hydrology Indicators: Primary Indicators (any one indicator is s Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6)	sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed So	Water Marks (B1) (Riverine)     Sediment Deposits (B2) (Riverine)     Drift Deposits (B3) (Riverine)     Drainage Patterns (B10)     Dry-Season Water Table (C2)     Thin Muck Surface (C7)     Crayfish Burrows (C8)     Saturation Visible on Aerial Imagery     Shallow Aquitard (D3)
Wetland Hydrology Indicators: Primary Indicators (any one indicator is s Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6)	sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed So	<ul> <li>Water Marks (B1) (Riverine)</li> <li>Sediment Deposits (B2) (Riverine)</li> <li>Drift Deposits (B3) (Riverine)</li> <li>Drainage Patterns (B10)</li> <li>Dry-Season Water Table (C2)</li> <li>Roots (C3)</li> <li>Thin Muck Surface (C7)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery</li> <li>Shallow Aquitard (D3)</li> </ul>
Wetland Hydrology Indicators: Primary Indicators (any one indicator is s Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imager	sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed So	<ul> <li>Water Marks (B1) (Riverine)</li> <li>Sediment Deposits (B2) (Riverine)</li> <li>Drift Deposits (B3) (Riverine)</li> <li>Drainage Patterns (B10)</li> <li>Dry-Season Water Table (C2)</li> <li>Roots (C3)</li> <li>Thin Muck Surface (C7)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery</li> <li>Shallow Aquitard (D3)</li> </ul>
Wetland Hydrology Indicators: Primary Indicators (any one indicator is s Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imager Water-Stained Leaves (B9) Evald Observations:	sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Sc y (B7)Other (Explain in Remarks)	<ul> <li>Water Marks (B1) (Riverine)</li> <li>Sediment Deposits (B2) (Riverine)</li> <li>Drift Deposits (B3) (Riverine)</li> <li>Drainage Patterns (B10)</li> <li>Dry-Season Water Table (C2)</li> <li>Roots (C3)</li> <li>Thin Muck Surface (C7)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery</li> <li>Shallow Aquitard (D3)</li> </ul>
Wetland Hydrology Indicators: Primary Indicators (any one indicator is s Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imager Water-Stained Leaves (B9) Field Observations:	sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Sc y (B7)Other (Explain in Remarks)	<ul> <li>Water Marks (B1) (Riverine)</li> <li>Sediment Deposits (B2) (Riverine)</li> <li>Drift Deposits (B3) (Riverine)</li> <li>Drainage Patterns (B10)</li> <li>Dry-Season Water Table (C2)</li> <li>Roots (C3)</li> <li>Thin Muck Surface (C7)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery</li> <li>Shallow Aquitard (D3)</li> </ul>
Wetland Hydrology Indicators:         Primary Indicators (any one indicator is s	sufficient)  Salt Crust (B11)  Salt Crust (B12)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  No	<ul> <li>Water Marks (B1) (Riverine)</li> <li>Sediment Deposits (B2) (Riverine)</li> <li>Drift Deposits (B3) (Riverine)</li> <li>Drainage Patterns (B10)</li> <li>Dry-Season Water Table (C2)</li> <li>Thin Muck Surface (C7)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery</li> <li>Shallow Aquitard (D3)</li> <li>FAC-Neutral Test (D5)</li> </ul>
Wetland Hydrology Indicators:         Primary Indicators (any one indicator is a surface Water (A1)	sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Sc y (B7)Other (Explain in Remarks) No/_ Depth (Inches):	<ul> <li>Water Marks (B1) (Riverine)</li> <li>Sediment Deposits (B2) (Riverine)</li> <li>Drift Deposits (B3) (Riverine)</li> <li>Drainage Patterns (B10)</li> <li>Dry-Season Water Table (C2)</li> <li>Thin Muck Surface (C7)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery</li> <li>Shallow Aquitard (D3)</li> <li>FAC-Neutral Test (D5)</li> </ul>
Wetland Hydrology Indicators:         Primary Indicators (any one indicator is s	sufficient)  Salt Crust (B11)  Salt Crust (B12)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  No	Water Marks (B1) (Riverine)     Sediment Deposits (B2) (Riverine)     Drift Deposits (B3) (Riverine)     Drainage Patterns (B10)     Dry-Season Water Table (C2)     Thin Muck Surface (C7)     Crayfish Burrows (C8)     Saturation Visible on Aerial Imagery     Shallow Aquitard (D3)     FAC-Neutral Test (D5)
Wetland Hydrology Indicators:         Primary Indicators (any one indicator is s	sufficient)  Salt Crust (B11)  Salt Crust (B12)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  No	Sediment Deposits (B2) (Riverine)     Drift Deposits (B3) (Riverine)     Drainage Patterns (B10)     Dry-Season Water Table (C2)     Thin Muck Surface (C7)     Crayfish Burrows (C8)     Saturation Visible on Aerial Imagery     Shallow Aquitard (D3)     FAC-Neutral Test (D5)
Wetland Hydrology Indicators:         Primary Indicators (any one indicator is s	sufficient) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Sc y (B7)Other (Explain in Remarks) No/_ Depth (Inches):	Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Roots (C3) Thin Muck Surface (C7)  Crayfish Burrows (C8) bils (C6) Saturation Visible on Aerial Imagery Shallow Aquitard (D3) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No
Wetland Hydrology Indicators:         Primary Indicators (any one indicator is s	sufficient)  Salt Crust (B11)  Salt Crust (B12)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  No	Water Marks (B1) (Riverine)     Sediment Deposits (B2) (Riverine)     Drift Deposits (B3) (Riverine)     Drainage Patterns (B10)     Dry-Season Water Table (C2)     Thin Muck Surface (C7)     Crayfish Burrows (C8)     Saturation Visible on Aerial Imagery     Shallow Aquitard (D3)     FAC-Neutral Test (D5)
Wetland Hydrology Indicators:         Primary Indicators (any one indicator is s	sufficient)Salt Crust (B11)Biotic Crust (B12)Aquatic Invertebrates (B13)Hydrogen Sulfide Odor (C1) ne)Oxidized Rhizospheres along LivingPresence of Reduced Iron (C4)Recent Iron Reduction in Plowed Sc y (B7)Other (Explain in Remarks)No/Depth (inches):No/Depth (inches):NoDepth (inches):	Water Marks (B1) (Riverine)     Sediment Deposits (B2) (Riverine)     Drift Deposits (B3) (Riverine)     Drainage Patterns (B10)     Dry-Season Water Table (C2)     Thin Muck Surface (C7)     Crayfish Burrows (C8)     Saturation Visible on Aerial Imagery     Shallow Aquitard (D3)     FAC-Neutral Test (D5)
Wetland Hydrology Indicators:         Primary Indicators (any one indicator is s	sufficient)Salt Crust (B11)Biotic Crust (B12)Aquatic Invertebrates (B13)Hydrogen Sulfide Odor (C1) ne)Oxidized Rhizospheres along LivingPresence of Reduced Iron (C4)Recent Iron Reduction in Plowed Sc y (B7)Other (Explain in Remarks)No/Depth (inches):No/Depth (inches):NoDepth (inches):	Water Marks (B1) (Riverine)     Sediment Deposits (B2) (Riverine)     Drift Deposits (B3) (Riverine)     Drainage Patterns (B10)     Dry-Season Water Table (C2)     Thin Muck Surface (C7)     Crayfish Burrows (C8)     Saturation Visible on Aerial Imagery     Shallow Aquitard (D3)     FAC-Neutral Test (D5)
Wetland Hydrology Indicators:         Primary Indicators (any one indicator is s	sufficient)Salt Crust (B11)Biotic Crust (B12)Aquatic Invertebrates (B13)Hydrogen Sulfide Odor (C1) ne)Oxidized Rhizospheres along LivingPresence of Reduced Iron (C4)Recent Iron Reduction in Plowed Sc y (B7)Other (Explain in Remarks)No/Depth (inches):No/Depth (inches):NoDepth (inches):	Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Roots (C3) Thin Muck Surface (C7)  Crayfish Burrows (C8) bils (C6) Saturation Visible on Aerial Imagery Shallow Aquitard (D3) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No

### WETLAND DETERMINATION DATA FORM - Arid West Region

WEIER	ODDITERMINATION 2	$\zeta$	fi i i con
Project/Site:	City/C	county: <u>Opria</u>	Burnardi'w         Sampling Date: 3/14/08           State:         CA           Sampling Point:         65-3
Applicant/Owner: Circle Point		<u></u>	State: $\underline{(4)}$ Sampling Point: <u>45-5</u>
Investigatoriel: 5 Holson, J. W.	whole Section	on, Township, Ran	ge:
Landform (hillstone terrace etc.) -1 -1-	Local Local	l relief (concave, ca	onvex, none): <u></u>
Subregion (LRR):		.563922	Tong: N 35.4 19219 Datum: NAV 32
Soit Map Unit Name: <u>12 A</u>			NWI classification: NA ZONE (1
Are climatic / hydrologic conditions on the site t	vpical for this time of year? Y	′es/ No	(If no, explain in Remarks.)
Are Vegetation, Soir, or Hydroid			Normal Circumstances" present? Yes// No
Are Vegetation <u>No</u> , Soil, or Hydrold			eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach	site map showing sam	pling point lo	cations, transects, important features, etc.
Hydric Soil Present? Yes	8 No 8 No 9 No	is the Sampled . within a Wetland	d? Yes <u>No //</u>
Remarks:		OHW MY: V	NII Photos: 9836: NE
		ŀ	× 3" 8\$37.'S
			5 2:1
VEGETATION			
		ninant Indicator	Dominance Test worksheet:
Tree Stratum (Use scientific names.)	<u>% Cover</u> Spe	ecies? <u>Status</u>	Number of Dominant Species
1			That Are OBL, FACW, or FAC:(1)(A)
2			Total Number of Dominant 5 (B)
3			
4	Total Cover:		Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum	16	At us	Prevalence Index worksheet: /
1. Ambrosia evidentra 2. Eriogonin fasciculatum		the second se	Total % Cover of: Multiply by:
3. Hymenoden Salsma	<u>_</u>		-OBL species x 1 =
4.			FACW species x 2 =
5.			FAC species x 3 =
	Total Cover: 24		FACU species x 4 =
Herb Stratum	7 Y	, then we	UPL species $2\%$ x 5 = $140$ Column Totals: $2\%$ (A) $140$ (B)
1. Erodium (interimon			Column Totals: <u>28</u> (A) <u>140</u> (B)
2. Aristida purpurea			Prevalence index = B/A =
3			Hydrophytic Vegetation Indicators:
5.			Dominance Test is >50%
6			Prevalence Index is ≤3.0 ¹
7	······································		Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8		·····	Problematic Hydrophytic Vegetation ¹ (Explain)
	Total Cover: <u>4</u>		
Woody Vine Stratum			¹ Indicators of hydric soil and wetland hydrology must
2			be present.
· ·	Total Cover: Ø		Hydrophytic
% Bare Ground in Herb Stratum <u>d &amp;</u>	% Cover of Biotic Crust	Ø	Vegetation Present? Yes No
Remarks:			

S	n	ł	L
~	~		

1.1

Sampling Point: <u>(c5-3</u>
------------------------------

OIL I de the deal	th needed to document the indicator or cor	firm the absence	of indicators.)
<b>1 1 1 1</b>			
Depth <u>Matrix</u> inches) Color (mpist) %		² <u>Texture</u>	
nches) <u>Color (moist)</u> <u>76</u>			gravel
4 10.5 1/R 4/2			
· · · · · · · · · · · · · · · · · · ·			
	=Reduced Matrix. ² Location: PL=Pore Lin	ing, RC=Root Cha	nnel, M=Matrix.
ype: C=Concentration, D=Depletion, RM	=Reduced Matrix. Location: 1 2-1 oro zero	indicator	s for Problematic Hydric Soils ³ :
Type: C=Concentration, D=Depletion, Two lydric Soil Indicators: (Applicable to all		1 cm	Muck (A9) (LRR C)
_ Histosol (A1)	Sandy Redox (55)	2 cm	Muck (A10) (LRR B)
Histic Epipedon (A2)	Stripped Matrix (S6) Loamy Mucky Mineral (F1)	Redu	uced Vertic (F18)
Black Histic (A3)	Loamy Gleyed Matrix (F2)	Red	Parent Material (TF2)
Hydrogen Sulfide (A4)	Depleted Matrix (F3)	Othe	er (Explain in Remarks)
Stratified Layers (A5) (LRR C)	Depleted Matrix (FS) Redox Dark Surface (F6)		
1 cm Muck (A9) (LRR D)	Depleted Dark Surface (F7)		
Depleted Below Dark Surface (A11)	Redox Depressions (F8)		
Thick Dark Surface (A12)	Vernal Pools (F9)	³ Indicato	rs of hydrophytic vegetation and
Sandy Mucky Mineral (S1)		wetla	nd hydrology must be present.
Sandy Gleyed Matrix (S4)			
Restrictive Layer (if present):		ļ	
Туре:		Hydric S	oil Present? Yes No
Depth (inches):			
Remarks:			
IYDROLOGY			(a cr more required)
		<u>Se</u>	condary indicators (2 or more required)
Wetland Hydrology Indicators:	(ficient)		_ Water Marks (B1) (Riverine)
Primary Indicators (any one Indicator is su	Sait Crust (B11)	<u> _</u>	Sediment Deposits (B2) (Riverine)
Surface Water (A1)			Drift Deposits (B3) (Riverine)
High Water Table (A2)	Biotic Crust (B12)	•	_ Drainage Patterns (B10)
Saturation (A3)	Aquatic Invertebrates (B13)	—	Dry-Season Water Table (C2)
Water Marks (B1) (Nonriverine)	Hydrogen Sulfide Odor (C1)		_ Thin Muck Surface (C7)
Sediment Deposits (B2) (Nonriverin	e) Oxidized Rhizospheres along Liv		_ Crayfish Burrows (C8)
Drift Deposits (B3) (Nonriverine)	Presence of Reduced from (		_ Saturation Visible on Aerial Imagery (C
Surface Soil Cracks (B6)	Recent Iron Reduction in Plowed		Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery	(B7) Other (Explain in Remarks)		FAC-Neutral Test (D5)
Water-Stained Leaves (B9)			
Field Observations:	No / Depth (inches):	.	
Surface Water Present? Yes	No Depth (inches): No Depth (inches):	.	
	No Depth (inches):	Wetland Hydro	ology Present? Yes No <u>V</u>
Saturation Present? Yes			· · · · · · · · · · · · · · · · · · ·
(Includes capillary fringe)	monitoring well, aerial photos, previous inspe-	ections), if available	e:
Describe Recorded Data (stream gauge	Homonia conternation of		
· · · · · · · · · · · · · · · · · · ·			
Remarks:			
a ulu T Chi 5,55	F-I.1-181		

### WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site:	City/County:	n Burnay arno Sampling Date: 3/14/05
Applicant/Owner:Crac Point		State: CA Sampling Point: 65-4
		nge:
Landform (hillslope, terrace, etc.): Valley Fhor	l ocal relief /concave. 0	convex, none): <u>(onraule</u> Slope (%): <u>3%</u>
_	-11-570519	tong: 1) 35.476049 Datum: 1000 83
		NWI classification: Whit 20 NE
	Inger? Yog J Ng	(If no, explain in Remarks.)
Are climatic / hydrologic conditions on the site typical for this time of y		Normal Circumstances" present? Yes No
Are Vegetation <u>NO</u> , Seil en Hydrology significant	•	eded, explain any answers in Remarks.)
Are Vegetation, Soll, or Hydrology naturally p		•
SUMMARY OF FINDINGS – Attach site map showin	g sampling point lo	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	Is the Sampled	Area
Hydric Soil Present? Yes No	within a Wetlan	1.00
Welland Hydrology Present? Yes No		
Remarks:	DHWH : W	11   Photos: 6838:5
	h	2" 6839 : N
	5	3:1
VEGETATION		
Absolute		Dominance Test worksheet:
Tree Stratum (Use scientific names.) <u>% Cove</u>	er <u>Species?</u> Status	Number of Dominant Species
1		That Are OBL, FACW, or FAC:
2		Total Number of Dominant
3		Species Across All Strata: (B)
4		Percent of Dominant Species 1/20 (ND)
Total Cover: Sapling/Shrub Stratum	– FAC	That Are OBL, FACW, or FAC: (A/B)
1. Barcharis saisthroides Z	T HAL	Prevalence Index worksheet:
2. Ambrosin priventing 2	Y UPENL	
3. Humenorlea Calsola 2	Y Att	-OBL species x1 =
4		FACW species x2 =
5		
Total Cover:	<u> </u>	FACU species $\frac{2}{10}$ x 4 = $\frac{6}{7050}$
Herb Stratum 1. Fredium Cicutor 3	Y OPLME	Column Totals: $14$ (A) $7064$ (B)
2. Avistida andre Wan	N UPENK	
3. csalsola traaus I	T OPD(F)	(U) Prevalence index = B/A = 4.57
4. C. Brownes terton m 1	N HOT WE	
5. Epioneuron pulchellum <1	N UT	Dominance Test is >50%
$6. \underline{\sqrt{= 5. kalli}}$	(FACU+,	Prevalence Index Is ≤3.0 ¹
7. OR = S. pestifica	CFACY	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8	·····	Problematic Hydrophytic Vegetation ¹ (Explain)
Total Cover: <u>X</u>		
Woody Vine Stratum		¹ Indicators of hydric soil and wetland hydrology must
1 2		be present.
Total Cover:		Hydrophytic
% Bare Ground in Herb Stratum <u>97</u> % Cover of Biotic	Crust	Vegetation Present? Yes No

Remarks:

			eded to document the indicator or Redox Features		
Depth	<u>Matrix</u> Color (moist)	% Cc	Redox Features	Loc ² Textu	re Remarks
(inches)					gravelly cobble
- 73	104/12 4/2				
	_				
				<u> </u>	
<u>_,,, _, _, _, _, _, _, _</u> ,,		·			
	Conceptration D=Det	letion, RM=Redi	uced Matrix. ² Location: PL=Pore	Lining, RC=Root	channel, M=Mainx. cators for Problematic Hydric Soils ³ :
Hydric Soil	Indicators: (Applic	able to all LKK	s, uniess other mass nervery		
Histoso			Sandy Redox (SS)	<del>_</del> _	1 cm Muck (A9) (LRR C) 2 cm Muck (A10) (LRR B)
Hiefic P	Epipedon (A2)		Stripped Matrix (S6)	·	Reduced Vertic (F18)
Black H	listic (A3)	-	Loamy Mucky Mineral (F1)		Red Parent Material (TF2)
Hydrog	ien Sulfide (A4)		Loamy Gleyed Matrix (F2)		Other (Explain in Remarks)
Stratifie	ed Layers (A5) (LRR	C) -	Depleted Matrix (F3) Redox Dark Surface (F6)	<u> </u>	
1 cm №	luck (A9) (LRR D)	-	Depleted Dark Surface (F7)		
Deplet	ed Below Dark Surfac	ce (A11) .	Redox Depressions (F8)		
Thick [	Dark Surface (A12)		Vernal Pools (F9)	³ Ind	icators of hydrophytic vegetation and
Sandy	Mucky Mineral (S1) Gleyed Matrix (S4)	-		V	vetland hydrology must be present.
Sandy	Layer (if present):				
Туре:	inches):			Hydr	ic Soil Present? Yes No _
Type: Depth (i				Hydr	ic Soil Present? Yes No _
Type: Depth (i	inches):		-	Hydr	
Type: Depth (i Remarks:	inches):			Hydr	Secondary Indicators (2 or more requi
Type: Depth (i Remarks: HYDROL	OGY			Hydr	Secondary Indicators (2 or more regul Water Marks (B1) (Riverine)
Type: Depth (i Remarks: HYDROL Wetland F Primary In	OGY lydrology Indicators dicators (any one Ind		nt) Salt Crust (B11)	Hydr	Secondary Indicators (2 or more requi Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine
Type: Depth (i Remarks: HYDROL Wetland H Primacy In Surface	OGY lydrology Indicators dicators (any one Indicators ce Water (A1)		nt) Salt Crust (B11) Biotic Crust (B12)	Hydr	Secondary Indicators (2 or more requi Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine)
Type: Depth (i Remarks: HYDROL Wetland H Primary In Surfac High V Satura	OGY lydrology Indicators dicators (any one ind ce Water (A1) Water Table (A2) ation (A3)	s: licator is sufficier	nt) Salt Crust (B11) Biotic Crust (B12) Aguatic Invertebrates (B13)	Hydr	Secondary Indicators (2 or more requi Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10)
Type: Depth (i Remarks: HYDROL Wetland H Primacy In Surfact High V Sature Wated	OGY lydrology Indicators dicators (any one ind ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) (Nonrive	s: licator is sufficier erine)	nt) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13)		Secondary Indicators (2 or more requi Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2)
Type: Depth (i Remarks: HYDROL Wetland F Primacy In Surface High V Satura Water Sedin	OGY fydrology Indicators dicators (any one Ind ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) (Nonriv nent Deposits (B2) (N	s: licator is sufficier erine) lonriverine)	nt) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along	J Living Roots (C3	Secondary Indicators (2 or more requi Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Thin Muck Surface (C7)
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## WETLAND DETERMINATION DATA FORM – Arid West Region

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Project/Site:	City/Co	unty: <u>Sam</u>	Burnar And Sampling Date: 3/14/3 K
Applicant/Owner: Circle Birt		- U =	State: Sampling Point:
Investigator(s): J. Holson, J. Windbelt	Section	n, Township, Ran	ge:
Landform (hillslope, terrace, etc.): Valley FT00/	Local	relief (concave, co	onvex, none): <u>concernent</u> Slope (%): <u>355</u>
Subregion (LRR):	at: \    5,	578832	tong: N 35.475842 Datum: NHD 83
Soli Map Unit Name: NA		,	NWI classification: N/A ZONE 11
Are climatic / hydrologic conditions on the site typical for this tin	te of vear? Ye		(If no. explain in Remarks.)
			Nomal Circumstances" present? Yes No
Are Vegetation No, Soil, or Hydrology signi			eded, explain any answers in Remarks.)
Are Vegetation No, Soil , or Hydrology natu		•	
SUMMARY OF FINDINGS - Attach site map sho	owing sam	pling point lo	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No		is the Sampled A	Area
Hydric Soil Present? Yes No	N/A	within a Wetland	d? Yes No
Wetland Hydrology Present? Yes No		But ut La	ton , cur find
Remarks:		OHWM W	
			1' GEGAJ-Month
			3:1
VEGETATION			
	bsolute Domi	inant Indicator	Dominance Test worksheet:
	<u>Cover</u> <u>Spec</u>		Number of Dominant Species That Are OBL, FACW, or FAC: (A)
1		·	
3	<u></u>		Total Number of Dominant Species Across All Strata:
- 3			/
Total Cover:	6		Percent of Dominant Species (A/B)
Sapling/Shrub Stratum	έ ν	NL	Prevalence Index worksheet:
1. Ambrosia enjorentia -			Total % Cover of: Multiply by:
2. Att ipter canescens -	2 N	HOT_N	* OBL species x1 =
3. <u>Humenorba</u> <u>salcola</u> 4. <u>Encelia</u> <u>Fintescens</u>	2 N	HE NL	~ FACW species x 2 =
	<u> </u>		FAC species x 3 =
5	12		FACU species $3$ $x4 = 12$
Herb Stratum		, NL	UPL species $1/1/2 \times 5 = 1000$
1. Erndium rightavium -	<u>2                                     </u>	HPE HPE	Column Totals: <u>19</u> (A) <u>9592</u> (B)
2. Erioneuron on klellum	<u>2 ř</u>	HPL NL	- Prevalence index = $B/A = \frac{54.84}{1000}$
3. Achatheven hymensides	$\frac{2}{1}$ $\frac{1}{N}$	UPL NI	
4. Bromus tertaium -		UTD.	Dominance Test is >50%
5			Prevalence Index is ≤3.0 ¹
6		· · · · · · · · · · · · · · · · · · ·	Morphological Adaptations ¹ (Provide supporting
7			data in Remarks or on a separate sheet)
o, Total Cover:	.7-		Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum			¹ Indicators of hydric soil and wetland hydrology must
1			be present.
2			Hydrophytic
Total Cover: _		a)	Vegetation
% Bare Ground in Herb Stratum % Cover of	Biotic Crust	<u> </u>	Present? Yes No
Remarks:			
	F-I.1-1	84	
n and the second s	1 -1. 1 - 1	U-T	

	Sampling Point:
SOIL	-Firm the absence of indicators.)
Pur Ele Description: (Describe to the depth needed to document the indicator or con	
Depth         Matrix         Redox Features           (inches)         Color (moist)         %         Type ¹ Log	c ² Texture Remarks
21 ocation: PL=Pore Lir	hing, RC=Root Channel, M=Matrix.
Type: C=Concentration, D=Depletion, target to all LRRs, unless otherwise noted.) Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Sandy Redox (S5)	1 cm Muck (A9) (LRR C) 2 cm Muck (A10) (LRR B)
Histic Epipedon (A2)       Simple Mark (60)         Black Histic (A3)       Loamy Mucky Mineral (F1)         Hydrogen Sulfide (A4)       Loamy Gleyed Matrix (F2)         Stratified Layers (A5) (LRR C)       Depleted Matrix (F3)         1 cm Muck (A9) (LRR D)       Redox Dark Surface (F6)	<ul> <li>Reduced Vertic (F18)</li> <li>Red Parent Material (TF2)</li> <li>Other (Explain in Remarks)</li> </ul>
Depleted Below Dark Surface (A11)       Depleted Dark Surface (17)         Thick Dark Surface (A12)       Redox Depressions (F8)         Sandy Mucky Mineral (S1)       Vernal Pools (F9)         Sandy Gleyed Matrix (S4)       Sandy State (S1)	³ Indicators of hydrophytic vegetation and wetiand hydrology must be present.
Restrictive Layer (if present): Type:	N/A Hydric Soil Present? Yes No
Depth (inches): Remarks: NO SOIL PIT dug.	
HYDROLOGY	Secondary Indicators (2 or more required)
Wetland Hydrology Indicators:	Water Marks (B1) (Riverine)
Surface Water (A1)       Saturation (A2)         High Water Table (A2)       Biotic Crust (B12)         Saturation (A3)       Aquatic Invertebrates (B13)         Water Marks (B1) (Nonriverine)       Hydrogen Sulfide Odor (C1)         Sediment Deposits (B2) (Nonriverine)       Oxidized Rhizospheres along Li         Drift Deposits (B3) (Nonriverine)       Presence of Reduced Iron (C4)         Surface Soil Cracks (B6)       Recent Iron Reduction in Plower         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)	Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) iving Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C8)
Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches):	

	Water Table Present?	Yes No Depth (inches): Wetland Hydrology	Present?
ł	Saturation Present?	Yes No Depth (inches): Wettend try and the	
	(includes capiliary tringe)	ream gauge, monitoring well, aerial photos, previous inspections), if available:	
	Describe Recorded Data (**		<u> </u>

Remarks: OHIOM Indicatory - Cl, CS, Sd, SS, PL, Percent Soil Composition - grand, sand, couble, riprop F-1.1-185

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## Exhibit C

Representative Areas Potentially Excluded from Corps Jurisdiction Based on Corps-EPA Rapanos Guidance, DesertXpress Project, HUC 8 Death Valley-Lower Amargosa Watershed Draining to Badwater Basin

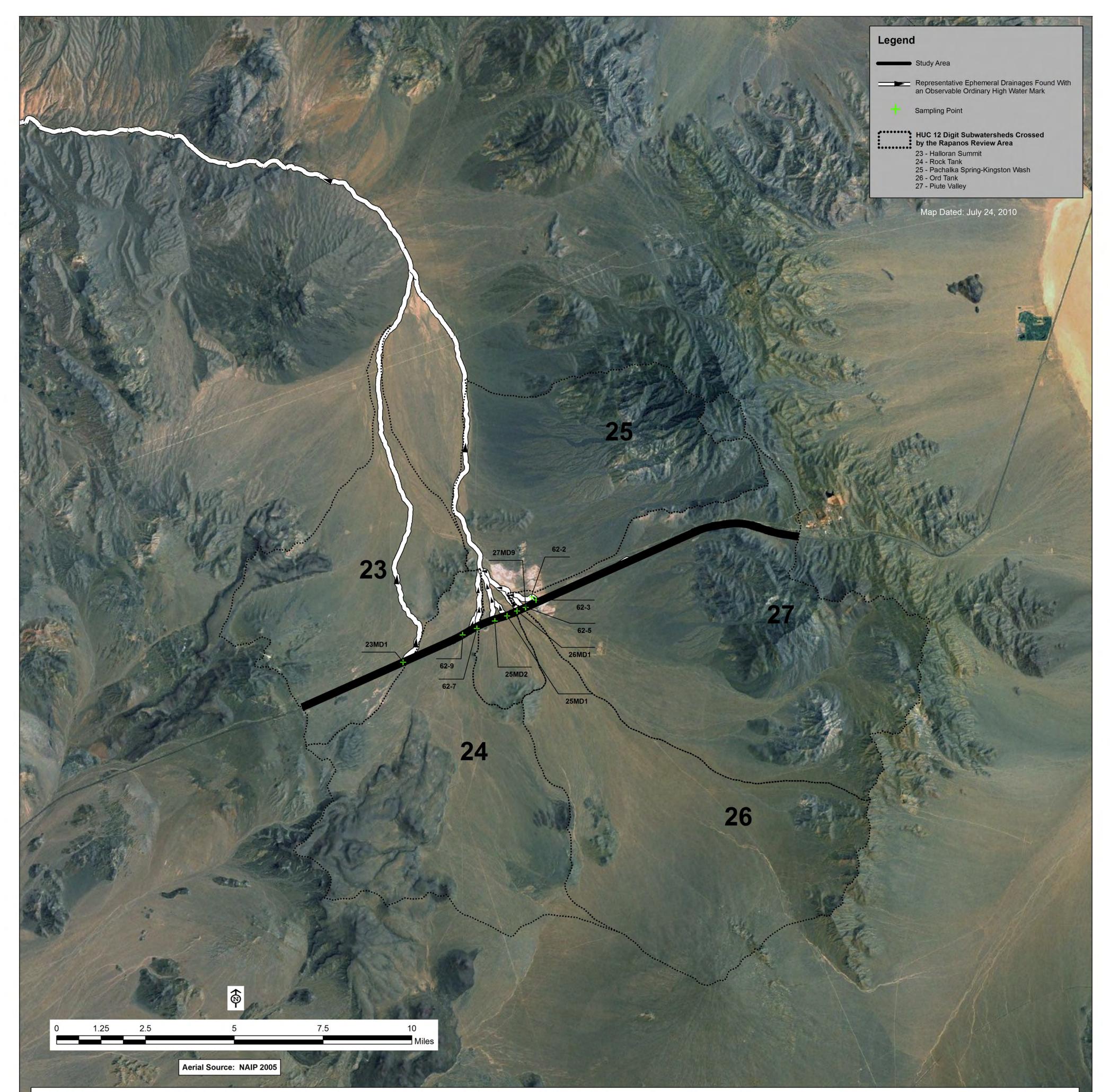


Exhibit C. Map Showing Representative Areas Potentially Subject to Corps Jurisdiction Under Section 404 of the Clean Water Act, DesertXpress Project, HUC 8 Death Valley - Lower Amargosa Watershed San Bernardino County, California.

# Exhibit D

## Hydrology Maps for CWA Jurisdictional Analysis

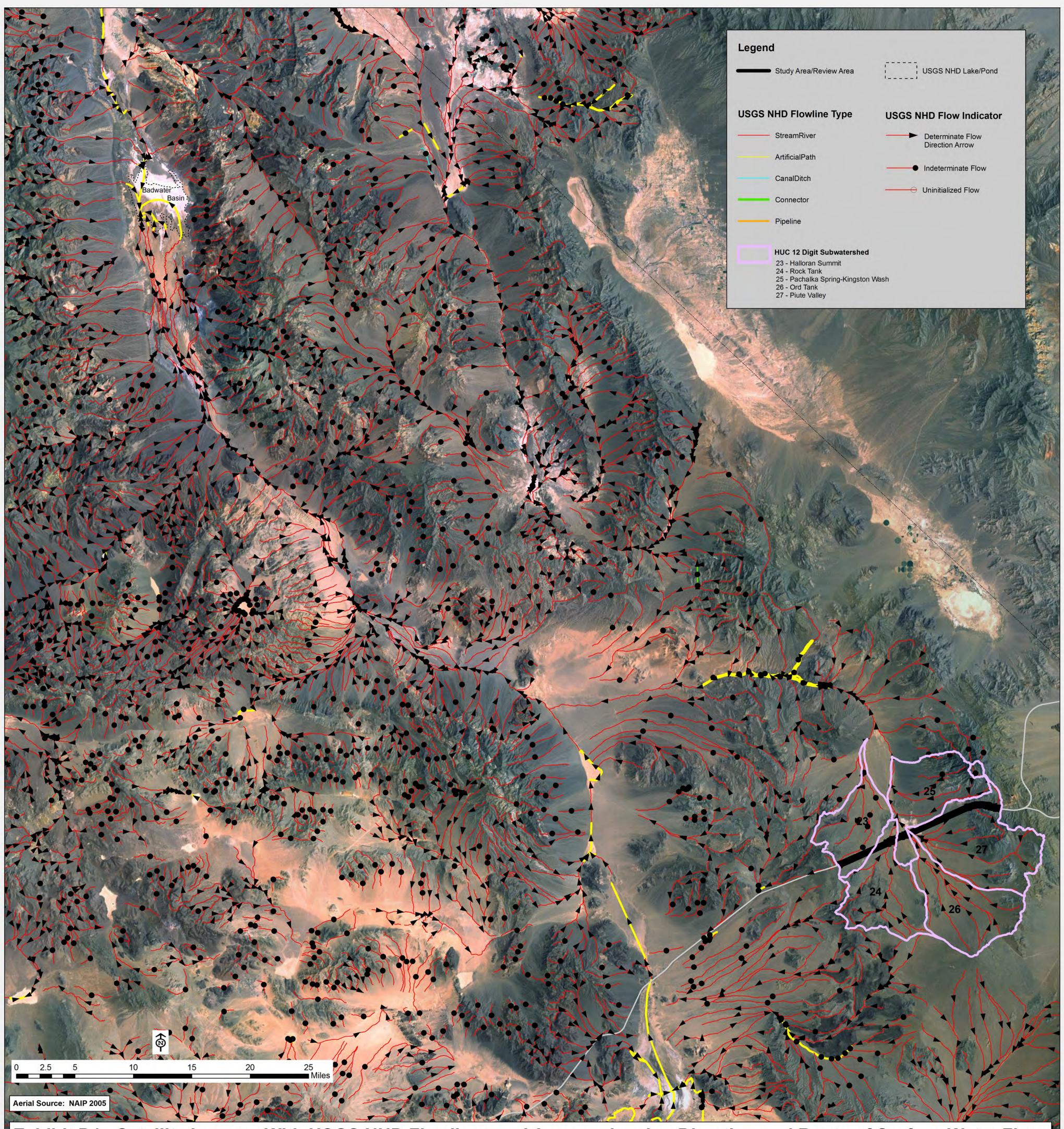


Exhibit D1. Satellite Imagery With USGS NHD Flowlines and Arrows showing Direction and Route of Surface Water Flow From Review Area toward Isolated Badwater Basin

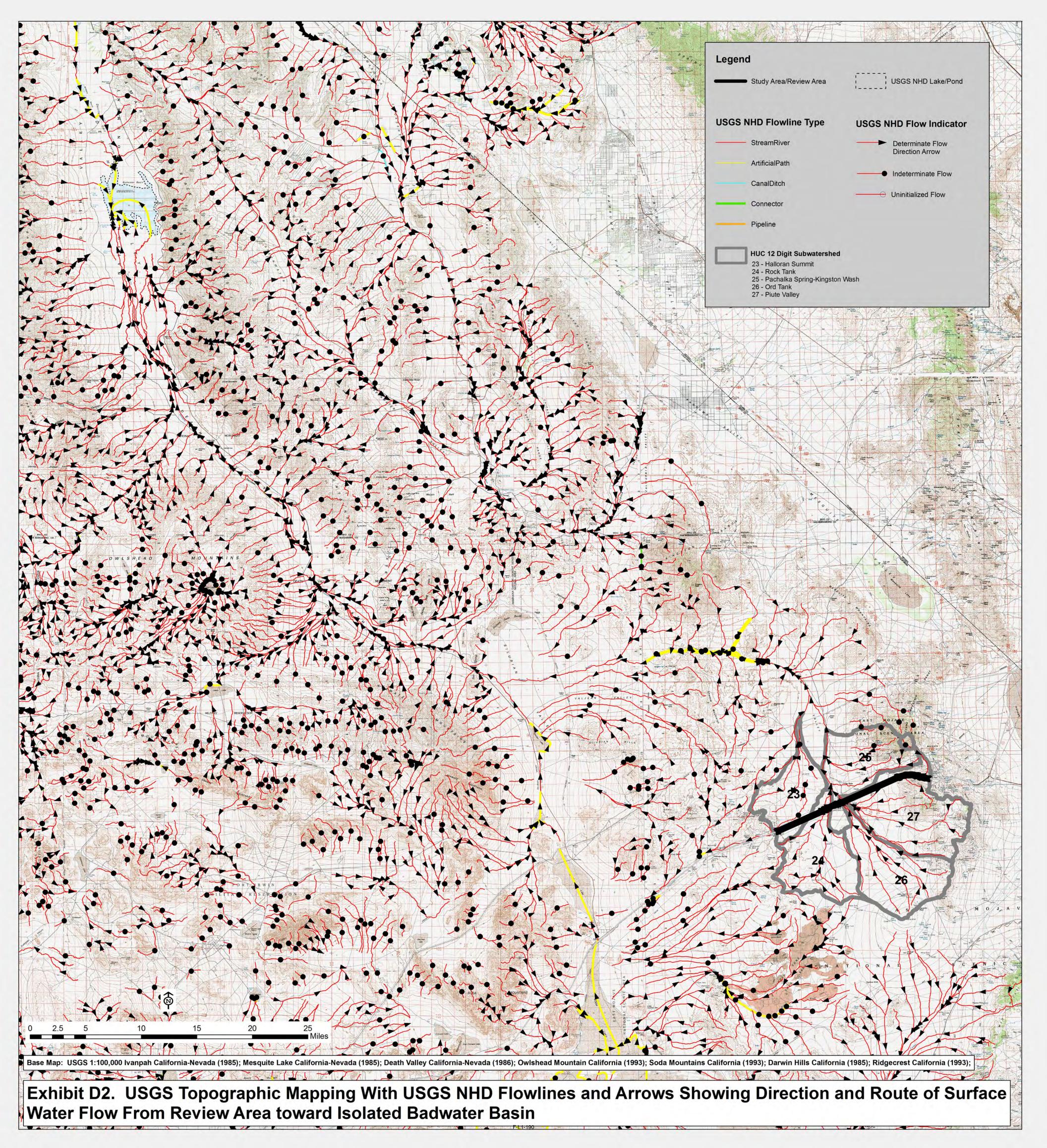




Exhibit D3. Mapping Showing Surface Water Connection of Representative Ephemeral Drainages / non-RPWs within Rapanos Review Area to Badwater Basin

Case-

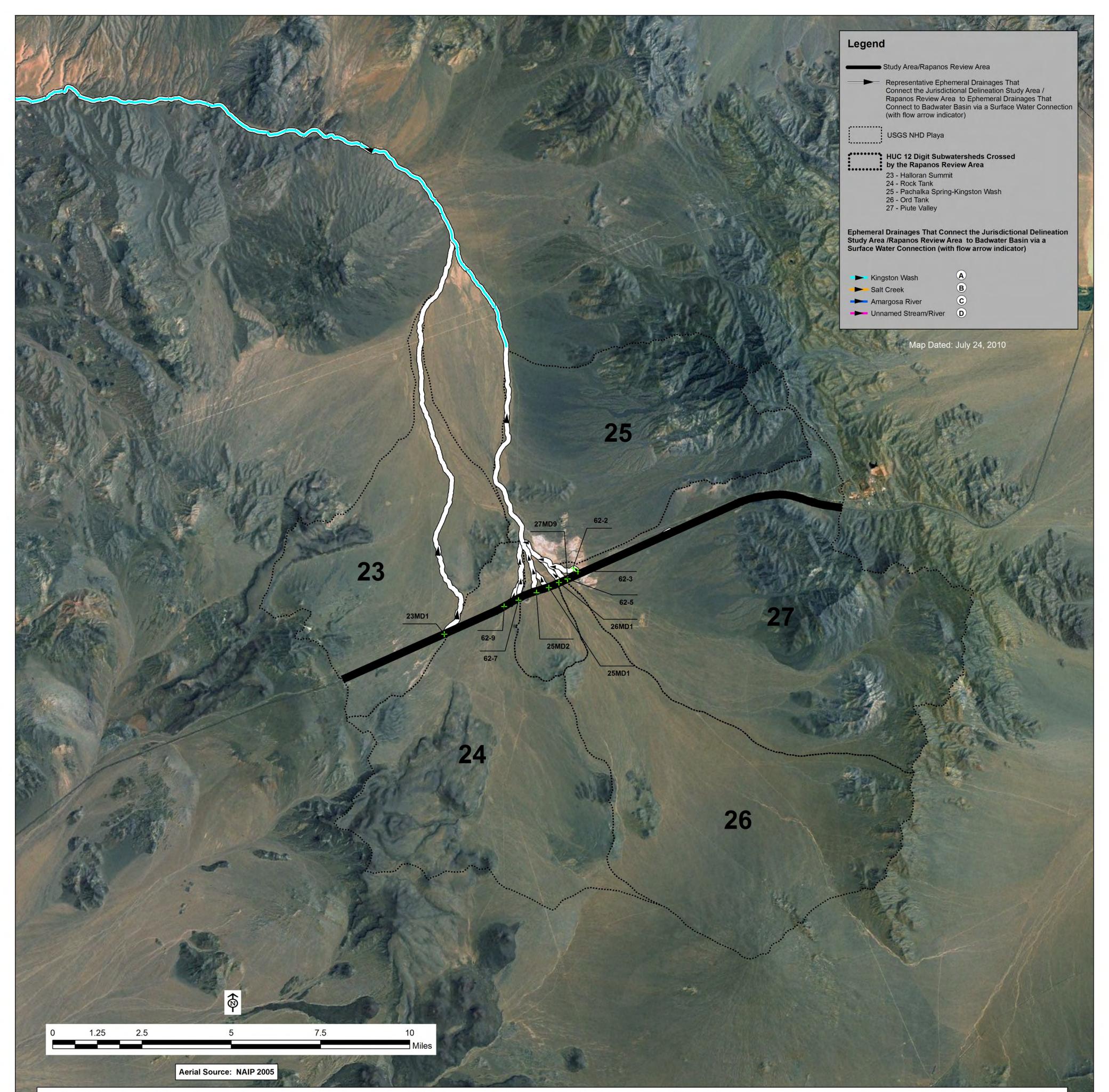


Exhibit D4. Mapping Showing Surface Water Connection of Representative Ephemeral Drainages / non-RPWs within Rapanos Review Area to Kingston Wash