Jurisdictional Determination of Seasonal Features

for the

NEWPORT BANNING RANCH

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TABLE OF CONTENTS

Section **Page No.**

TABLE OF CONTENTS

Section **Page No.**

TABLE OF CONTENTS

Section **Page No.**

APPENDICES

FIGURES

TABLES

TABLE OF CONTENTS

Section **Page No.**

1.0 INTRODUCTION

Dudek has prepared this jurisdictional determination of seasonal features report (report) to present the results of our wetland criteria assessment and regulatory responsibility for a variety of seasonal features that occur on the Newport Banning Ranch (site), an oil field, located in the City of Newport Beach and unincorporated Orange County, California. For the purposes of this report, a seasonal feature is a small, topographically depressed area capable of supporting inundation from local rain events for a short duration usually during the winter and spring months. The initial wetland delineation of these features was conducted by Glenn Lukos Associates, Inc. (GLA) in June 2012, and then was subsequently reviewed, updated, and modified by Dudek. Wetland criteria, developed by the Army Corps of Engineers (USACE), were thoroughly assessed at each feature for the presence of a positive indicator of wetland habitat, understanding that the strictest definition of wetland would herein be applied, the one-parameter wetland per the California Coastal Act (CCA). Importantly, oil production, operation, maintenance, abandonment and remediation activities of the oil field are the subject of a 1973 determination by the California Coastal Zone Conservation Commission that the rights to conduct the oil operations on the oil field had vested and are, therefore, exempt from regulation under the California Coastal Zone Conservation Act. Accordingly, seasonal features positive for wetland criterion, but within oil operational areas and/or the oil operation abandonment and soil remediation footprint were not identified as jurisdictional under the CCA or under the regulatory authority of the California Coastal Commission (CCC). However, all features were evaluated pursuant to the single parameter test used by the CCC to delineate wetlands and the data presented accordingly on the Wetland Determination data forms and the Wetland Parameter Field Assessment map (Figure 4). Other regulations, federal and state, pertaining to wetlands and waters of the U.S. and the State of California under their respective laws is unrestrictive, in our determination, for the entire site. Additionally, the San Diego fairy shrimp (*Branchinecta sandiegonensis*), a federally endangered branchiopod (i.e. fairy shrimp) inhabits eight of these seasonal features. As such, we have properly included the U.S. Fish and Wildlife Service (USFWS), which has regulatory authority over federally-listed species, in our jurisdictional determination.

The report provides our reasoning for the determination of jurisdictional status of the seasonal features based on relative to the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Coastal Commission (CCC). The immediate intent of this report is to provide updated biological information in support of the project application through the CCC's Coastal Development Permit (CDP) review process. This report is also intended to support review by other applicable regulatory resource agencies that may have permit authority governing actions carried out on the project site, specifically the USACE, RWQCB, and USFWS.

Newport Banning Ranch LLC (NBR) is proposing a project on the 401.07-acre site consisting of residential, mixed-use and visitor-serving development, habitat restoration, and recreational playgrounds, parks, and open space. As a precursor to implementing the Project, Newport Banning Ranch LLC, (representing the surface rights owners, Cherokee Newport Beach, LLC and Aera Energy LLC) have agreed to assume from the mineral rights owners the responsibility to complete a $30 million dollar oilfield abandonment and environmental remediation effort, thereby making approximately 95% of the property available for conservation, recreation and limited residential, commercial and visitor-serving uses. Biologically important project components include the following:

- Approximately 235 acres of the property (59 percent) would be designated as an Open Space Preserve and is anticipated to be managed by the Newport Banning Land Trust.

- Approximately 144 acres of the designated open space would be subject to restoration and conservation of wetland, bluff, riparian and upland mesa habitat, 3 acres would be revegetated and enhanced as native planting buffers around oil consolidation sites, and 76 acres would be made available for third-party wetland mitigation and habitat restoration purposes.

- The Project's natural open space, passive and active public parklands and trail system are a significant contributing element to the envisioned 1,000-acre Orange Coast River Park, which is planned as a contiguous nature park connecting inland areas to the shoreline at the mouth of the Santa Ana River via trails and a variety of restored coastal habitats.

- The Project site's existing surface oil production activities located throughout the site would be consolidated into approximately 17 acres, which would be abandoned, remediated, restored and converted to permanent open space upon cessation of oil operations.

1.1 Project Location

The Project site is located in the City of Newport Beach and unincorporated Orange County, California, on the southwestern boundary of the City of Costa Mesa and east of the City of Huntington Beach (*Figure 1*). The site is bordered by commercial and residential development in the City of Costa Mesa on the east, the Pacific Coast Highway and residential properties within Newport Beach on the south, the Santa Ana River and Santa Ana River estuary on the west, and Talbert Regional Park on the north. The Pacific Ocean is approximately 289 meters (947 feet) to the southwest of the site at its closest point.

1.2 Biological Setting

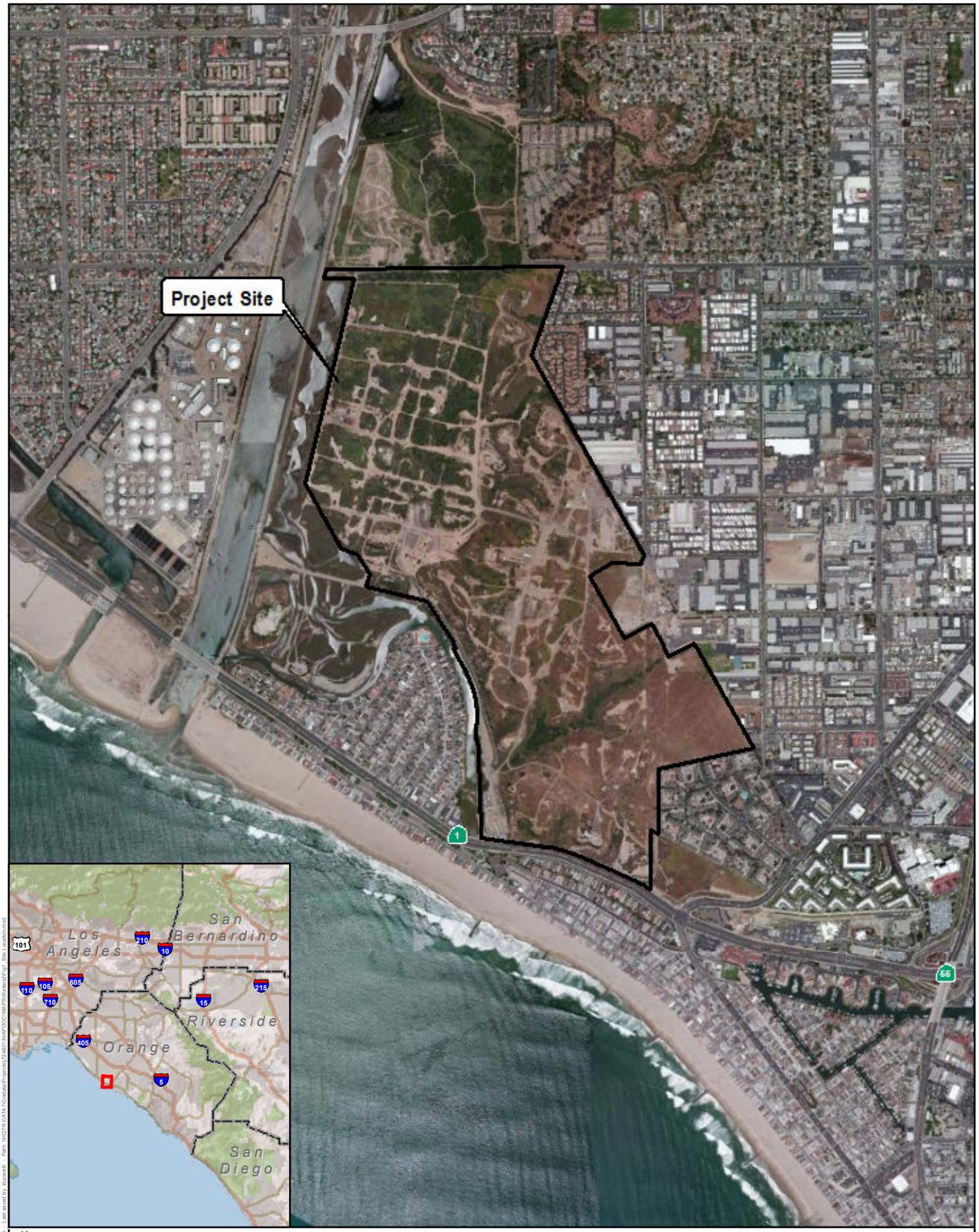
The Project site, which comprises approximately 401 acres, is partially located on the western edge of a coastal terrace overlooking the Santa Ana River, with adjacent bluffs, arroyos, and lowlands that include areas of the Santa Ana River floodplain and local areas that exhibit tidal influence as well as adjacent wetland areas not addressed in this report. Currently, the entire site consists of an oil producing facility. The lowlands, which are not addressed in this report, occupy mostly the northwestern portion of the site, adjacent to the Santa Ana River and the river estuary. They consist of limited tidally influenced saltmarsh habitats, disturbed open and scrub habitats, and an extensive area of disturbed willow forest and scrub, all of which have been modified to some degree by oil well pads, roads, oil and gas pipelines, and maintenance activities associated with the oil facilities. Developed areas consisting of pavement and buildings below the bluffs occupy the lowlands bordering the west edge of the site farther south. The majority of the southern and eastern portions of the site consist of a coastal terrace. This terrace supports areas of open grass and forb-dominated communities in the southeast, disturbed forb-dominated communities in the east-central portion of the site, scrub habitats in the northeastern portion of the site, and a mixture of scrub, and disturbed forb communities in the central portion of the site. An arroyo with an extensive area of southern willow scrub bisects the southern portion of the site from east to west. As with the lowlands, oil development is found throughout the areas of coastal terrace, where paved and dirt roads, oil well pads, and gas and oil pipelines occur across the landscape. The bluffs bordering the terrace to the south and east are dominated by a variety of coastal scrub communities that include California brittlebush (*Encelia californica*), California buckwheat (*Eriogonum fasciculatum*), prickly pear (*Opuntia littoralis*), and coast cholla (*Cylindropuntia prolifera*).

The Project site is located within the largely urbanized coastal portion of Orange County. However, it is adjacent to estuarine habitat associated with the Santa Ana River and upland mesa areas with seasonal pools that , which is inhabited by special-status bird species such the Belding's savannah sparrow (*Passerculus sandwichensis beldingi*), listed as endangered (SE) under the California Endangered Species Act (CESA), and the light-footed clapper rail (*Rallus longirostris levipes*), SE and listed as endangered (FE) under the federal Endangered Species Act (ESA). In addition, a mosaic of natural coastal habitats is found north of the site and along the Santa Ana River, in Talbert Regional Park and Fairview Park. Coastal California gnatcatchers (*Polioptila californica californica*), a bird species listed as threatened (FT) under the ESA, is found in scrub habitats within these areas and on the Project site. Another federally listed bird species, the least Bell's vireo (*Vireo bellii pusillus*), occurs in habitats dominated by willows (*Salix* spp.) in the area, including in the lowlands of the Project site. Vernal pools in the undeveloped areas near the Santa Ana River, including the Project site, provide habitat for the federally endangered San Diego fairy shrimp (*Branchinecta sandiegonensis*). The open habitats

within the less developed corridor associated with the Santa Ana River also provide habitat for raptor species, including the northern harrier (*Circus cyaneus*), white-tailed kite (*Elanus leucurus*), red-tailed hawk (*Buteo jamaicensis*), and American kestrel (*Falco sparverius*). Trees and wooded areas provide nesting habitat for raptors and foraging habitat for species such as Cooper's hawk (*Accipiter cooperii*) and red-shouldered hawk (*Buteo lineatus*). Osprey (*Pandion haliaetus*), which feed mostly on fish, are attracted to open water in the area.

1.3 Biological Survey Area

Detailed field surveys for this report were performed throughout the upper mesa areas on the eastern portion of the Project site focusing solely on seasonal features that have been documented to fill with rain water and remain ponded for a short duration. Historical wetland delineation data from the *Draft Jurisdictional Delineation Report* by BonTerra (2011b) and *Jurisdictional Delineation for the Newport Banning Ranch Property* by GLA (2008) documented jurisdictional features in the western lowlands and in vegetated riparian areas in the eastern upper mesa portions of the Project site (*Figure 2*); however, the majority of the features addressed in this report were not mapped by those studies.



N

Feet
0 750 1,500

1 inch = 1,500 feet

Figure 1

Site Location

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Jurisdictional Determination of Seasonal Features

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Project Site Boundary

Joint Ownership Oil Facilities Areas / Consolidation Sites – Existing and Continuing Oil Operations

Biological Survey Area
"X" - Seasonal Feature Identification

Seasonal Feature Identification

V
X
Y
Z
U
T
S
R
P
Q
AA
VP1
N
O
M
VP3
VP2
J
L
K
H
I
BB
G
D
E
CC
F
HH
C
EE
DD
B
FF
II
GG
JJ
A
KK
QQ
RR
W
SS
TT
LL
NN
MM
OO
PP

N

Feet
0 400 800

1 inch = 250 feet

SOURCE: 2011 Aerial provided by Fusco Engineering; Biological Survey Areas - Jurisdictional Determination/Delineation of 49 Ponding Features at the Newport Banning Ranch Property, Orange County, California. GLA 2012

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Figure 2

Biological Survey Area

Jurisdictional Determination of Seasonal Features

Date: 2/4/2013 - Created by: slucarelli - Last saved by: slucarelli - Path: \\HOTR-DATA1\Gisdata\Projects\j724601\MAPDOC\MAPS\Wetland\Fig2_Biological Survey Area.mxd

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2.0 SUMMARY OF REGULATIONS

The following agencies regulate specified activities within streams, wetlands, and riparian areas throughout California: USACE, California Department of Fish and Wildlife (CDFW; formerly the California Department of Fish and Game [CDFG]), and RWQCB. The USACE Regulatory Program regulates the discharge of dredge or fill material under Section 404 of the Clean Water Act (CWA). The CDFW regulates alteration of streambeds and lakes waters under Sections 1600–1616 of the CDFG Code. The RWQCB regulates dredge and fill activities within wetlands and non-wetland waters under Section 401 of the CWA and discharge of waste into waters of the state under the Porter-Cologne Water Quality Control Act.

The CCC also regulates wetlands within the coastal zone pursuant to the California Coastal Act (CCA) (California Public Resources Code Section 30233). The City of Newport Beach (City) regulates wetlands (coastal brackish marshes, coastal freshwater marshes, southern coastal salt marshes, southern hardpan vernal pools, freshwater seeps, and alkali meadows) as Environmentally Sensitive Habitat Areas (ESHAs) pursuant to the Coastal Land Use Plan (CLUP; City of Newport Beach 2005); however, the site is located in an area of deferred certification, within which the City's certified CLUP does not serve as the standard of review for new development. The City's certified CLUP may, however, serve as guidance for CCC review of new development subject to coastal development permit requirements under the CCA.

2.1 U.S. Army Corps of Engineers

Pursuant to Section 404 of the Clean Water Act, the USACE regulates the discharge of dredged and/or fill material into waters of the United States. The term "waters of the United States" is defined in USACE regulations at 33 CFR Part 328.3(a) as:

> *(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 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 shell fish 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)-(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)-(6) of this section.

In the absence of wetlands, the limits of USACE jurisdiction in non-tidal waters, such as intermittent streams, extend to the ordinary high water mark (OHWM) which is defined at 33 CFR 328.3(e) as:

> *...that line on the shore established by the fluctuation 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.*

The term "wetlands" (a subset of "waters of the United States") is defined at 33 CFR 328.3(b) as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support...a prevalence of vegetation typically adapted for life in saturated soil conditions." The discharge of dredge or fill material into waters of the United States, including wetlands requires authorization from the USACE prior to impacts.

The USACE regulates "discharge of dredged or fill material" into "waters of the U.S.," which includes tidal waters, interstate waters, and all other waters that are part of a tributary system to interstate waters or to navigable "waters of the U.S.," the use, degradation, or destruction of which could affect interstate or foreign commerce or which are tributaries to waters subject to the ebb and flow of the tide (33 CFR. 328.3(a)), pursuant to provisions of Section 404 of the CWA. The USACE defines jurisdictional wetlands as areas supporting a predominance of hydrophytic vegetation, hydric soils, and wetland hydrology, in accordance with the procedures established in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987). However, the United States Supreme Court ruling in the *Solid Waste Agency of Northern Cook County vs. United States Army Corps of Engineers, No. 99-1178* (January 9, 2001) ("the

SWANCC case"), held that the CWA does not give the federal government regulatory authority over non-navigable, isolated, intrastate waters. Because of this decision, some previously regulated depressional areas such as mudflats, sandflats, wetlands, prairie potholes, wet meadows, playa lakes, natural ponds, and vernal pools, which lack a hydrologic connection to other intra- or inter-state "waters of the U.S.," are no longer regulated by the USACE. However, some of these areas (e.g., isolated streams, lakes or ponds) may still be regulated by the CDFW under Section 1600 of the CDFG Code, the RWQCB under the Porter-Cologne Water Quality Control Act, or the CCC under the California Coastal Act.

2.2 California Department of Fish and Wildlife

In accordance with Section 1600 et seq. of the CDFG Code (Streambed Alteration), the CDFW regulates activities which "will substantially divert, obstruct, or substantially change the natural flow or bed, channel or bank, of any river, stream, or lake designated by the CDFW in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit." The CDFW takes jurisdiction to the top of bank of a stream, or the limit of the adjacent riparian vegetation, referred to in this report as "streambed and associated riparian habitats."

Section 1600 et seq. does not extend to isolated wetlands and waters, such as small ponds or pools not located on or immediately adjacent to a stream course, wet meadows, vernal pools, or tenajas, nor does it extend over marine waters influenced by the ebb and flow of the tide that lack a bed and bank form typical of stream channels.

2.3 Regional Water Quality Control Board

The RWQCB regulates discharging waste, or proposing to discharge waste, within any region that could affect the "waters of the state" (Water Code Section 13260 (a)), pursuant to provisions of the Porter-Cologne Water Quality Control Act. "Waters of the State" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (Water Code Section 13050 (e)). Although the Porter-Cologne Water Quality Control Act definition of "Waters of the State" may not apply on federally owned land, the RWQCB may still assert jurisdiction over qualifying aquatic resources on land owned by the U.S. where the CWA Section 401 applies. Before the USACE will issue a CWA Section 404 permit, applicants must receive a CWA Section 401 Water Quality Certification from the RWQCB. If a CWA Section 404 permit is not required for the project, the RWQCB may still require a permit (i.e., Waste Discharge Requirement) under the Porter-Cologne Water Quality Control Act.

2.4 California Coastal Commission

Under the CCA, the CCC regulates impacts to wetlands in the "coastal zone" and reviews new development subject to coastal development permit requirements. Section 30121 of the CCA

defines wetlands as "...lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, swamps, mudflats, and fens…" In contrast to the USACE, which uses a three-parameter definition to delineate wetlands, the CCC essentially uses the Cowardin method of wetlands classification, which defines wetland boundaries by a single parameter (i.e., hydric soils, hydrophytic vegetation, or hydrology) (Cowardin et al. 1979).

The CCC wetland definition is generally more encompassing than either the USACE or CDFW definition in most respects. However, Section 13577(b) of the Administrative Regulations suggest that, where conditions are not capable of supporting hydric soils or hydrophytic vegetation, hydrologic indicators of saturation or surface waters should be expressed on an annual basis ("at some time during each year") rather than under ordinary high water conditions as is the case under the federal regulatory standard.

The CLUP Policy 4.2.3-11, which may serve as guidance for CCC review of new development subject to coastal development permit requirements under the CCA, requires the following minimum mitigation measures if a project involves diking or filling of a wetland (City of Newport Beach 2005):

A. *If an appropriate mitigation site is available, the applicant shall submit a detailed plan which includes provisions for (1) acquiring title to the mitigation site; (2) "in-kind" wetland restoration or creation where possible; (3) where "out-of-kind" mitigation is necessary, restoration or creation of wetlands that are of equal or greater biological productivity to the wetland that was filled or dredged; and (4) dedication of the restored or created wetland and buffer to a public agency, or permanent restriction of their use to open space purposes.*

   Adverse impacts shall be mitigated at a ratio of 3:1 for impacts to seasonal wetlands, freshwater marsh and riparian areas, and at a ratio of 4:1 for impacts to vernal pools and saltmarsh (the ratio representing the acreage of the area to be restored/created to the acreage of the area diked or filled), unless the applicant provides evidence establishing, and the approving authority finds, that restoration or creation of a lesser area of wetlands will fully mitigate the adverse impacts of the dike or fill project. However, in no event shall the mitigation ratio be less than 2:1 unless, prior to the development impacts, the mitigation is completed and is empirically demonstrated to meet performance criteria that establish that the created or restored wetlands are functionally equivalent or superior to the impacted wetlands. The mitigation shall occur on-site wherever possible. Where not possible, mitigation should occur in the same watershed. The mitigation site shall be purchased and legally restricted and/or dedicated before the dike or fill development may proceed.

B. The applicant may, in some cases, be permitted to open equivalent areas to tidal action or provide other sources of surface water in place of creating or restoring wetlands pursuant to paragraph A. This method of mitigation would be appropriate if the applicant already owns, or can acquire, filled or diked areas which themselves are not environmentally sensitive habitat areas but which would become so if such areas were opened to tidal action or provided with other sources of surface water.

C. However, if no appropriate sites under options (A) and (B) are available, the applicant shall pay an in-lieu fee of sufficient value to an appropriate public agency for the purchase and restoration of an area of equivalent productive value, or equivalent surface area.

2.5 U.S. Fish and Wildlife Service

Section 9 of the Endangered Species Act (ESA) prohibits taking of fish and wildlife species listed as endangered or threatened under section 4 of the ESA. Under the ESA, the term ``take'' means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The term ``harm'' is defined in the regulations as significant habitat modification or degradation that results in death or injury of listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering (50 CFR 17.3). The term ``harass'' is defined in the regulations as to carry out actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavioral patterns, which include, but are not limited to, breeding, feeding, or sheltering (50 CFR 17.3).

However, under specified circumstances, the USFWS may issue permits that allow the take of federally listed species, provided that the take that occurs is incidental to, but not the purpose of, an otherwise lawful activity. Regulations governing permits for endangered and threatened species are at 50 CFR 17.22 and 17.32, respectively.

Section 7(a)(1)(B) of the Act contains provisions for issuing such incidental take permits to non-Federal entities for the take of endangered and threatened species, provided the following criteria are met:

A. The taking will be incidental;

B. The applicants will, to the maximum extent practicable, minimize and mitigate the impact of such taking;

C. The applicants will propose a mitigation plan and ensure that adequate funding for the plan will be provided;

D. The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild; and

E. The applicants will carry out any other measures that the USFWS may require as being necessary or appropriate for the purposes of the conservation easement.

3.0 METHODS

Before detailing the methodology, it is important to note that a large number of the seasonal features (features) addressed in this report were identified during previous wet season fairy shrimp surveys conducted by GLA in 2000, 2008, 2009, 2010, 2011, and 2012. The focus of these surveys was to determine the presence or absence of federally listed vernal pool branchiopods. During these surveys, depth and duration of water ponding were recorded, presence/absence of invertebrate species was documented, and rain quantities were recorded. Since the fairy shrimp survey protocol requires bi-weekly visits to the site, the data presented in the survey reports was useful in determining recent site conditions, historical hydrology information, and assisted in identifying potential seasonal features. Additionally, Dudek conducted a 2012 dry season fairy shrimp survey to determine the presence of fairy shrimp cysts/aquatic invertebrates. GLA also conducted an extensive literature review, which included all available Project reports and maps, local plans and professional databases. The subsequent field surveys focused on evaluating the seasonal features that have the potential to be regulated by the USACE, CDFW, RWQCB, and/or CCC as wetlands.

3.1 Literature Review

The following data sources and project reports were used in the wetland delineation and jurisdictional determination effort:

- *90-Day Dry-Season Protocol Survey Report for Federally-Listed Vernal Pool Branchiopods on the Newport Banning Ranch, City of Newport Beach and Unincorporated Orange County, Orange County, California. Permit Numbers TE139634-2 and TE60147A-0* (Dudek 2013)
- *Biological Technical Report for the Newport Banning Ranch Property, Newport Beach, California* (GLA 2009a)
- Coastal Land Use Plan (City of Newport Beach 2005)
- *Draft Environmental Impact Report, Volume I, Newport Banning Ranch Project, City of Newport Beach* (BonTerra 2011a)
- *Draft Jurisdictional Delineation Report, Newport Banning Ranch, Newport Beach, California* (BonTerra 2011b)
- *Examination of Soil Samples from an Orange County, CA Site for Fairy Shrimp Cysts* (ERS 2012)

- *Final Biological Technical Report, Newport Banning Ranch, Newport Beach, California.* (BonTerra 2011c)
- Historic aerial photographs
- *Jurisdictional Delineation for the Newport Banning Ranch Property, City of Newport Beach and Unincorporated Orange County, Orange County, California* (GLA 2008a)
- *Jurisdictional Determination/Delineation of 48 Ponding Features at the Newport Banning Ranch Property, Orange County, California*. (GLA 2012a)
- National Wetlands Inventory Maps (USFWS 2012)
- National Hydric Soils List (USDA-NRCS 2012a)
- *Report of 2011/2012 Wet-Season Survey for Listed Branchiopods Conducted for Oil Field Features at the 401-acre Newport Banning Ranch Property, City of Newport Beach and Unincorporated Orange County, Orange County, California.* (GLA 2012b)
- *Report of a Wet-Season Survey for Listed Branchiopods Conducted for a Seasonal Pool at the 403-acre Newport Banning Ranch Property, City of Newport Beach and Unincorporated Orange County, Orange County, California.* (GLA 2009b)
- *Report of a Wet-Season Survey for Listed Branchiopods Conducted for Oil Field Features at the 401-acre Newport Banning Ranch Property, City of Newport Beach and Unincorporated Orange County, Orange County, California.* (GLA 2011a)
- *Report of a Wet-Season Survey for Listed Branchiopods Conducted for Three Seasonal Pools at the 403-acre Newport Banning Ranch Property, City of Newport Beach and Unincorporated Orange County, Orange County, California.* (GLA 2010)
- *Results of Dry-Season Survey for Listed Fairy Shrimp for a Single Feature at the 412.5-acre Newport Banning Ranch Property, City of Newport Beach and Unincorporated Orange County, Orange County, California.* (GLA 2011b)
- *Summary of Protocol Surveys for Federally-Listed Vernal Pool Branchiopods Conducted on Newport Banning Ranch, City of Newport Beach and Unincorporated Orange County, California* (Dudek and GLA 2013)
- *Summary of Surveys for Federally-Listed Vernal Pool Branchiopods Conducted in 2000 and 2007 through 2012 at the 401-acre Newport Banning Ranch Property, City of Newport Beach, Orange County, California*. (GLA 2012c)

- U.S. Geological Survey (USGS) topographic map
- Various inputs from community members including the Complete Banning Ranch Mesa Vernal Pools/Wetland, Second Edition, Power Point Slide Show. (Banning Ranch Conservancy 2011)
- Web Soil Survey (USDA-NRCS 2012b)

3.2 Field Assessment

As noted, GLA performed wet season fairy shrimp surveys, prior to conducting the seasonal feature jurisdictional wetland delineation, in 2000, 2008, 2009, 2010, 2011, and 2012. During wet season fairy shrimp surveys, hydrological monitoring was performed at subject seasonal features to document depth and duration of inundation. In addition, Dudek performed a 2012 dry season fairy shrimp survey to document aquatic invertebrates.

Following the detailed hydrological monitoring, in May and June 2012, GLA Senior Wetland Specialist Tony Bomkamp performed a delineation of seasonal features to determine whether the features met the minimum threshold for wetlands as defined by USACE, CDFW, RWQCB, and the CCC (*Table 1*). Dudek performed a follow-up site visit on October 4, 2012 to review and verify data collected by GLA during the seasonal feature wetland delineation.

Table 1. Summary of Surveys, Personnel, and Company

Date(s)	Survey Type	Personnel	Company
May 1 and 10, 2012 June 9, 2012	Jurisdictional Delineation of Seasonal Features	T. Bomkamp	GLA
October 4, 2012	Jurisdictional Delineation of Seasonal Features Field Review and Update	J. Davis IV, T. Wotipka, H. Moine	Dudek

Notes:
GLA – Glenn Lukos Associates, Inc.

The seasonal feature wetland delineation was performed in accordance with the methods prescribed in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008). The USACE and RWQCB wetlands delineation consisted of data collection focused on the three parameters described in the USACE manual: hydrophytic vegetation, hydric soils, wetland hydrology. Potential wetland areas defined by the City and CCC were determined based on the presence of a single parameter with the presence of each parameter determined in accordance with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008). In

some instances where isolated surface waters are present, the RWQCB may choose to take jurisdiction over these resources under the State's Porter-Cologne Water Quality Control Act.

A total of three seasonal features (named 24b, 49a, and 49b by the Banning Ranch Conservancy) were previously observed by the Banning Ranch Conservancy but not observed during 2011 GLA surveys, thus not surveyed. Additionally, one seasonal feature (named 6 by the Banning Ranch Conservancy) was previously observed by the Banning Ranch Conservancy but determined to be outside the property boundary by GLA, thus not surveyed (Banning Ranch Conservancy 2011 and GLA 2012c).

Vegetation, soils, and hydrology were each evaluated for 49 geographically distinct features throughout the Project site to determine the presence or absence of wetland field indicators as described in more detail below.

3.2.1 Wetland Vegetation

Seasonal changes in species composition, land-use practices, wildfires, and other natural disturbances can adversely affect the process for wetlands vegetation determination. In normal situations, a sample point is considered positive for hydrophytic vegetation if it passes the basic dominance test (Indicator 1), meaning that more than 50 percent of the dominant species sampled were characterized as either obligate, facultative wetland, and/or facultative per *The National Wetland Plant List* (Lichvar 2012). At each seasonal feature sample point, absolute cover and dominance of each observed plant species was recorded. A description of the hydrophytic vegetation categories is provided in *Table 2*.

Table 2. Hydrophytic Vegetation Indicator Categories

Indicator Status	Occurrence in Wetlands	Estimated Probability of Occurrence in Wetland (percent)
OBL (Obligate Wetland Plants)	Occur almost always under natural conditions in wetlands.	>99
FACW (Facultative Wetland Plants)	Usually occur in wetlands, but occasionally found in non-wetlands.	67-99
FAC (Facultative Plants)	Equally likely to occur in wetlands or non-wetlands.	34-66
FACU (Facultative Upland Plants)	Usually occurs in non-wetlands, but occasionally found in wetlands.	1-33
UPL (Obligate Upland Plants)	Occurs in wetlands in another region, but occur almost always under natural conditions in non-wetlands in this region.	<1
NI (No Indicator)	Not included on list of hydrophytic vegetation, does not occur in wetlands in the region specified.	0

*Source: Reed 1988

3.2.2 Hydric Soils

The presence of hydric soils was determined in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008). According to the National Technical Committee for Hydric Soils, hydric soils are "soils that are formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part" (USDA Soil Conservation Service 1994).

Where feasible, soil pits were excavated to depths of approximately six inches; however, digging in many survey areas was challenging due to the presence of asphalt and compacted soils. Dry soils were moistened to obtain the most accurate soil color. Munsell Soil-Color Charts were used to determine soil chroma and value (Munsell 2009). Excavated soils were examined for evidence of hydric conditions, including low chroma values and redoximorphic features, vertical streaking, sulfidic odor, gleyed soils, and high organic matter content in the upper horizon. In general, soils from test pits were determined to be hydric if found to be of a chroma one or chroma two with redoximorphic features, consistent with the description of Redox Depressions (F8) and/or Vernal Pools (F9) in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008). Additionally, evidence of previous ponding or flooding was assessed along with the slope, local topography, existing landform characteristics, and soil material/composition, in order to determine if hydric soils were present.

3.2.3 Hydrology

Per the guidelines prescribed in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008), wetland hydrology indicators are separated into four major groups: Group A, B, C, and D. Group A indicators are based on direct observations of surface flow, ponding, and soil saturation/groundwater. Group B indicators consist of evidence that the site has been or is currently subjected to ponding including, but not limited to, water marks, drift deposits, aquatic invertebrates, and sediment deposits. Group C indicators include signs of previous and/or current saturation including oxidized rhizospheres surrounding living roots and the presence of reduced iron or sulfur, both of which are indicative of extended periods of soil saturation. Group D indicators consist of "vegetation and soil features that are indicative of current rather than historic wet conditions and include a shallow aquitard and results of the FAC-Neutral test." Each group is subdivided into primary and secondary categories based on their frequency and probability to occur in the Arid West region.

GLA and Dudek biologists examined each feature closely for evidence of hydrology indicators including, most notably, surface water (A1), surface soil cracks (B6), and aquatic invertebrates (B13). Rain quantities, ponding, and aquatic invertebrate data collected during wet season fairy shrimp surveys and aquatic invertebrate data collected during dry season fairy shrimp surveys were used to assist in jurisdictional determination. It should be noted that ponding data was not consistently recorded during wet season fairy shrimp surveys, thus decreasing the ability to include the data during jurisdictional determination. During site visits, each of the 49 features was closely examined for evidence of hydrology indicators from all four groups.

3.3 Coastal Act Exemption Assessment

Oil production, operation, maintenance and abandonment and remediation activities of the Banning Lease Oil Field are the subject of a 1973 determination by the California Coastal Zone Conservation Commission that the rights to conduct the oil operations on the oil field had vested and are, therefore, exempt from regulation under the California Coastal Zone Conservation Act.

For purposes of identifying wetland features subject to CCA review, all features were first evaluated pursuant to the single parameter test used by the CCC to delineate wetlands, and were then reviewed for relative location within existing oil field facility areas and pending/planned abandonment, consolidation and remediation sites to identify those features consider exempt and not jurisdictional under the CCA. The quantity of each seasonal feature within oilfield facility, abandonment and soil remediation areas was then calculated within the geographic information system (GIS) database. If greater than 50 percent of the seasonal feature is located within oil facility, abandonment and remediation footprint, it was identified as exempt and not jurisdictional under the CCA or under the regulatory authority of the CCC.

The exempt status of existing oil field operation and maintenance activities and pending/planned abandonment, consolidation and remediation activities presents a unique set of circumstances pursuant to which the subject CCA wetland delineation is conducted, and the Project Team is committed to sharing all relevant information with CCC Staff to facilitate a thorough review of the jurisdictional wetland determination as it relates to CCA permit requirements.

4.0 SITE HISTORY

Much of the Project site has been the subject of ongoing oil field operations extending over 75 years. In order to evaluate resources located within oil field operations areas, it is necessary to understand the scope of prior oil field operations that have affected the property and the scale of future abandonment and remediation activities that are typically mandated by regulation for any oil field at the end of production and associated processing.

Since the commencement of oil operations in the early 1940's, approximately 489 wells have been drilled on the oil field. Existing oil operations include the oil well sites and related surface and subsurface oil facility infrastructure, including but not limited to pipelines, storage tanks, power poles, machinery, improved and unimproved roadways, buildings, and oil processing facilities. There currently remain over 40 miles of active and inactive pipelines throughout the site used to convey oil, water, and gas produced from the oil wells to separation and treatment facilities within the oil field.

Operation of the oilfield involves drilling/redrilling and production operations, as well as staging of activities, the movement of equipment and personnel to, from, and across the site, and the storage of equipment and materials. In addition, the oil field operation includes maintenance and security activities that are essential to efficient operations and the protection of the property, oil field employees, and persons and properties in the vicinity of the oilfield. These activities include, among others, road repairs, vegetation management, fire abatement, and weed control.

Vegetation management is an integral component of the oil field maintenance program, and has been performed by oil operators since the early 1940s. The extent of vegetation clearance is limited to the amount necessary to ensure public safety, fire prevention, site security, and proper oil field functioning. Vegetation management is performed by mowing and manual removal (e.g., saws, weed whackers, and pruners) of flammable vegetation, including most open grass and weedy areas. Historically, the oil operators have performed vegetation management at least two times per year (depending upon the seasonal rainfall), and have periodically (typically annually) cleared vegetative growth along oil pipelines, gas pipelines, utilities, and well pad areas throughout the field. Pipeline clearing cannot be done by mechanical mowing; therefore, it is more difficult and labor-intensive resulting in a less frequent, but nonetheless important, component of the maintenance schedule. The same pattern of vegetation maintenance related to the oil field activities that was occurring at the time the Resolution of Exemption was issued has continued on the site to-date.

Pursuant to state and local agency requirements, a draft Remedial Action Plan, prepared by Geosyntec (August 2009*)* has been prepared which specifies that oil field abandonment and remediation efforts would include oilfield facility and infrastructure removal and oilfield

remediation, as well as the consolidation of oilfield activities. Active and potentially active wells in the upland and lowland areas outside of oil field consolidation areas would be plugged and abandoned. Additionally, previously abandoned wells would be investigated and, if necessary, would be re-abandoned, as needed to meet current DOGGR and Orange County Fire Authority requirements. The oilfield abandonment process would also include demolishing and removing the pipelines, utility poles, and other related production equipment, structures, and road surface materials. These abandonment activities would clear the site for the subsequent remediation phase, which would be implemented after the demolition and abandonment of oil production facilities are completed.

In addition, previous studies have identified multiple areas of Recognized Environmental Conditions (RECs) on the Project site. The site is impacted primarily by petroleum hydrocarbons. Seven of the RECs investigated show significant hydrocarbon impacts beyond surface areas. It is estimated that approximately 246,000 cubic yards (cy) of materials will need to be remediated as part of the abandonment process. Of the 246,000 cy, approximately 138,000 cy are hydrocarbon-impacted soils and 108,000 cy are surface road materials and concrete. In addition to the REC areas, it is expected that additional small volumes of impacted soils may be identified during the oilfield facility demolition phase. Based on the groundwater assessments performed at the site, there were no historical groundwater impacts detected under or in the immediate vicinity of the development area proposed for new land uses.

5.0 RESULTS

Forty-nine features were analyzed to determine the presence or absence of hydrophytic vegetation, hydric soils, and hydrology. The results of the jurisdictional determination listed in *Table 3*, detailed on the Wetland Determination Data Forms (*Appendix A*), and described in detail in *Sections 6.4-6.52*. Site photographs are provided in *Appendix B*.

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Table 3. Feature Sample Point Wetland Determination Field Indicators Summary

Feature Name		Wetland Determination Field Indicators					
Current Name	BRC Name	Vegetation		Hydric Soil	Hydrology		
		Dominance Test	Prevalence Index[1]	Redox Depressions (F8)	Surface Water (A1)	Surface Soil Cracks (B6)	Aquatic Invertebrates (B13)
VP1	1	✓	-	✓	-	-	✓[2]
VP2	2	✓	-	✓	-	-	✓[2]
VP3	AD3	-	-	-	-	-	✓[2]
A	30/30a	✓	-	-	✓	-	✓
B	5	-	-	-	-	-	✓
C	4	✓	-	-	-	-	✓
D	3	-	✓	-	-	-	✓
E	17	-	-	-	-	-	✓[2]
F	7	-	✓	-	-	-	-
G		-	-	-	-	✓	✓[2]
H	14	-	-	-	-	-	✓[2]
I	8	-	-	-	-	-	✓[2]
J	9	-	-	-	-	-	✓[2]
K	10	-	-	-	-	-	✓
L	15	-	-	-	-	-	✓
M	11	-	-	-	-	-	✓
N	16	-	-	-	✓	✓	✓
O	18	-	-	-	-	-	-
P	12	✓	-	-	-	✓	✓
Q	19	-	-	-	-	-	✓
R	13	✓	-	-	-	-	✓
S	21	-	✓	-	✓	✓	-
T	20	-	-	-	✓	-	✓
U	22	-	-	-	-	-	-
V	28	✓	-	-	-	-	✓
W	29	-	-	-	-	-	✓
X	28b	-	✓	-	-	-	✓
Y	38	-	-	-	-	-	✓

Table 3. Feature Sample Point Wetland Determination Field Indicators Summary

Feature Name		Wetland Determination Field Indicators					
Current Name	BRC Name	Vegetation		Hydric Soil	Hydrology		
		Dominance Test	Prevalence Index[1]	Redox Depressions (F8)	Surface Water (A1)	Surface Soil Cracks (B6)	Aquatic Invertebrates (B13)
Z	25	-	-	-	-	-	✓
AA	40	-	-	-	-	-	-
BB	41	-	-	-	-	-	✓
CC	31	✓	-	-	-	-	✓
DD	43	-	-	-	-	-	✓
EE	48	-	-	-	-	-	✓
FF	23	-	-	-	-	-	✓
GG	47	-	-	-	✓	-	✓
HH	26	-	-	-	-	-	✓
II	42	-	-	-	-	-	✓
JJ	33	-	-	-	-	-	-
KK	30b	-	-	✓	-	-	✓
LL	37	-	-	-	-	-	✓
MM	24a	✓	-	-	✓	-	✓
NN	45	-	-	-	-	-	-
OO	44	✓	-	-	-	-	✓
PP	27/46	✓	-	-	✓	-	✓
QQ	39	-	-	-	-	-	-
RR	36	-	-	-	-	-	-
SS	34	-	-	-	-	-	-
TT	35	-	-	-	-	-	-

Notes:

BRC – Banning Ranch Conservancy

[1] – Prevalence index is used when the sample point fails the dominance test. However, for the vegetation parameter to be met indicators of both hydric soil and wetland hydrology must be present, unless disturbed or problematic.

[2] – Federally endangered San Diego fairy shrimp (*Branchinecta sandiegoensis*)

5.1 Vegetation

A variety of hydrophytic vegetation was observed and recorded in order to document the potential for wetland designation. *Table 4* includes a comprehensive summary of common plant species observed within the features and their associated wetland indicator status.

Table 4. List of Hydrophytic Plant Species Observed at Feature Sample Points and Their Indicator Status

Scientific Name	Common Name	Indicator Status1
Ambrosia psilostachya	Cuman ragweed	FACU
Baccharis salicifolia	Mule fat	FAC
Baccharis salicina	Willow baccharis	FACW
Bassia hyssopifolia	Fivehorn smotherweed	FAC
Bromus hordeaceus	Soft brome	FACU
Conyza canadensis	Canadian horseweed	FACU
Cortaderia selloana	Uruguayan pampas grass	FACU
Cotula coronopifolia	Common brassbuttons	OBL
Cyperus eragrostis	Tall flatsedge	FACW
Deinandra fasciculata	Clustered tarweed	FACU
Distichlis spicata	Saltgrass	FAC
Eleocharis macrostachya	Pale spikerush	OBL
Eleocharis palustris	Common spikerush	OBL
Erodium botrys	Longbeak stork's bill	FACU
Euthamia occidentalis	Western goldentop	FACW
Frankenia salina	Alkali seaheath	FACW
Helminthotheca echioides	Bristly oxtongue	FACU
Heliotropium curassavicum	Salt heliotrope	FACU
Hordeum marinum ssp. gussoneanum	Mediterranean barley	FAC
Hordeum murinum ssp. leporinum	Hare barley	FACU
Lythrum hyssopifolia	Hyssop loosestrife	OBL
Malvella leprosa	Alkali mallow	FACU
Melilotus indicus	Annual yellow sweetclover	FACU
Plantago elongata	Prairie plantain	FACW
Polypogon monspeliensis	Annual rabbitsfoot grass	FACW
Pseudognaphalium luteoalbum	Jersey cudweed	FAC
Psilocarphus brevissimus	Short woollyheads	FACW
Pulicaria paludosa	Spanish false fleabane	FAC
Rumex crispus	Curly dock	FAC
Salsola tragus	Prickly Russian thistle	FACU

Table 4. List of Hydrophytic Plant Species Observed at Feature Sample Points and Their Indicator Status

Scientific Name	Common Name	Indicator Status1
Spergularia marina	Salt sandspurry	OBL
Vulpia myuros	Annual fescue	FACU

Notes:
1 – Source: Lichvar 2012

5.2 Soils

Of the 49 seasonal features examined for soil characteristics, only three soil pits exhibited hydric soil indicators. In each case, the soil pits met the criteria for F8, Redox Depressions. Soils data collected at each feature sample point is provided on the Wetland Determination Data Forms in *Appendix A.*

Based on review of the Orange County USDA NRCS soil survey map (USDA-NCRS 2012b) and BonTerra's reports (2009a,b), the primary soils within the Project site include Beaches, Bolsa silt loam, Capistrano sandy loam, Marina loamy sand, Myford sandy loam, Pits, Riverwash, and Tidal Flats. A brief summary of the soils located within the Project site is provided herein because wetland resources can often be associated with specific substrates. The USDA-NRCS has mapped eight soil series within the Project site with 10 distinct soils. These soils vary widely in depth, fertility, and permeability. *Table 5* lists the soil types within the Project site.

Table 5. Soil Types and Hydric Status

Soil Types	Numeric Reference	Hydric Status
Beaches	115	Yes
Bolsa silt loam	122	Yes
Capistrano sandy loam, 9 to 15 percent slopes	136	No
Marina loamy sand, 2 to 9 percent slopes	162	No
Myford sandy loam, 0 to 2 percent slopes	172	Yes
Myford sandy loam, 2 to 9 percent slopes	173	Yes
Myford sandy loam, 9 to 30 percent slopes, eroded	177	No
Pits	185	Yes
Riverwash	191	Yes
Tidal flats	211	Yes

Notes:
Source: USDA-NRCS 2012b

Of the 10 soil series mapped onsite, seven are known to be hydric (USDA-NRCS 2012b). It is important to emphasize that the hydric soils lists were designed primarily to generate a list of

potentially hydric soils from the National Soil Information System (NASIS) database. They can be useful in making preliminary wetland determinations but in no way should replace field truthing. Field indicators must be used for all on-site determinations of hydric soils. A brief description of the surface soils present within the Project site based on the USDA-NRCS (formerly the Soil Conservation Service) soil survey map, is provided below (USDA-NCRS 2012b). *Figure 3*, Soils, illustrates the location of the described soils.

Beaches

Beaches are narrow, sandy, and stony areas along the Pacific Ocean, which are partly or completely covered by water during high tide and exposed during low tide. Along part of the coast, cliffs and bluffs rise abruptly from the ocean causing beaches to be absent or narrow. The stony stretches of beach are mainly at mouths of drainage ways and the base of cliffs. Beaches are not stable; they may change from sandy to stony or from stony to sandy during storms. This soil type occurs along the Pacific Ocean within the southern portion of the Project site.

Bolsa Silt Loam

The Bolsa series consists of somewhat poorly drained soils on alluvial fans. These soils formed in mixed alluvium. They have slopes of 0-2 percent, are nearly level and occur on large alluvial fans. A typical profile exhibits a matrix color of 10YR 4/2 from 0-29 inches when moist. The following Bolsa series soil type was mapped on the Project site:

- Bolsa Silt Loam (122)

Capistrano Sandy Loam

The Capistrano series consists of well-drained soils. These soils formed in sedimentary alluvium of the coastal foothills. Slopes are 9-15 percent. A typical profile exhibits matrix colors of 10YR 2/2 from 0-16 inches when moist, and 10YR 3/2 from 16-27 inches. The following Capistrano series soil type was mapped on the Project site:

- Capistrano Sandy Loam, 9-15 percent slopes (136)

Marina Loamy Sand

The Marina series consists of gently sloping to moderately steep soils on short rolling dune-like slopes. They formed in old sand dunes near the coast. A typical profile exhibits matrix colors of 10YR 4/3 from 0-12 inches when moist, and 7.5YR 4/4 from 12-27 inches. The following Marina series soil type was mapped on the Project site:

- Marina Loamy Sand, 2-9 percent slopes (162)

Myford Sandy Loam

The Myford series consists of moderately well drained soils on marine terraces. These soils formed in sandy sediments. Slopes ranged from nearly level to a moderately sloping 9 percent, and form 9 to 30 percent, eroded. A typical profile exhibits matrix colors of 10YR 4/3 from 0-1 inch when moist, 7.5YR 4/2 from 1-12 inches, and 7.5YR 3/2 from 12-28 inches. The following Myford series soil types were mapped on the Project site:

- Myford Sandy Loam, 0-2 percent slopes (172)
- Myford Sandy Loam, 2-9 percent slopes (173)
- Myford Sandy Loam, 9-30 percent slopes, eroded (177)

Pits

The Pit series consists of very deep, poorly drained soils that formed in fine-textured alluvium weathered from extrusive and basic igneous rocks. Pit soils are on flood plains and in basins. Slopes range from 0 to 5 percent. A typical profile exhibits matrix colors of 10YR 2/1 from 0-4 inches when moist, and 10YR 3/1 from 4-22 inches. The following Pit series soil type was mapped on the Project site:

- Pits (185)

Riverwash

Riverwash consists of areas of unconsolidated alluvium, generally stratified and varying widely in texture. Riverwash can be sandy, gravelly, or cobbly. The following Riverwash series soil type was mapped on the Project site:

- Riverwash (191)

Tidal Flats

Tidal Flats are nearly level areas adjacent to bays and lagoons along the coast. Periodically they are covered by tidal overflow. Some of the higher areas are only covered during very high tides. Tidal flats are stratified clayey to sandy deposits. They are poorly drained and high in salts. The following Tidal Flats series soil type was mapped on the Project site:

- Tidal Flats (211)

Project Site Boundary

Joint Ownership Oil Facilities Areas / Consolidation Sites – Existing and Continuing Oil Operations

Biological Survey Area

Seasonal Feature Identification

Soil Type

- 115 - BEACHES
- 122 - BOLSA SILT LOAM
- 136 - CAPISTRANO SANDY LOAM, 9 TO 15 PERCENT SLOPES
- 162 - MARINA LOAMY SAND, 2 TO 9 PERCENT SLOPES
- 172 - MYFORD SANDY LOAM, 0 TO 2 PERCENT SLOPES
- 173 - MYFORD SANDY LOAM, 2 TO 9 PERCENT SLOPES
- 177 - MYFORD SANDY LOAM, 9 TO 30 PERCENT SLOPES, ERODED
- 185 - PITS
- 191 - RIVERWASH
- 211 - TIDAL FLATS

N

Feet

0 400 800

1 inch = 500 feet

SOURCE: 2011 Aerial provided by Fusco Engineering; USDA NRCS Soils Data; Features Surveyed - Jurisdictional Determination/Delineation of 49 Ponding Features at the Newport Banning Ranch Property, Orange County, California. GLA 2012

DUDEK

NEWPORT BANNING RANCH

Figure 3

Soils

Jurisdictional Determination of Seasonal Features

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5.3 Hydrology

5.3.1 Regional and Local Hydrology

The Project site is located in coastal Orange County largely situated on a relatively flat coastal plain southwest of the Puente Hills and Santa Ana Mountains. The coastal plain is heavily developed and consists of pockets of open lands including Seal Beach National Wildlife Refuge, Bolsa Chica Ecological Reserve, Crystal Cove State Park, Laguna Coast Wilderness Park, and Aliso and Wood Park. Newport Beach is located within four distinct watersheds: Newport Bay, Newport Coast, Talbert, and San Diego Creek. The Project site is located within the Talbert Watershed, which drains an approximately 21.4 square mile area with two main tributaries: Greenville-Banning Channel, to the east of the Santa Ana River mouth, and Talbert and Huntington Beach Channels, west of the river mouth. The Project site is located within the Lower Santa Ana River Hydrologic Area and the East Coast Plain Hydrologic Sub-Area 801.11 discharging to the Santa Ana River Tidal Prism and Newport Slough (BonTerra 2011a).

The Project site drainage patterns generally flow from the higher elevations in the east towards the lower elevations to the west. Adjacent off-site drainage from the existing urban areas of Costa Mesa and Newport Beach are conveyed through the larger on site arroyos that convey towards the Santa Ana River Tidal Prism. The Project site contains five geomorphic features that apply to site hydrology, drainage patterns, and sediment transport: lowland, Newport Mesa (upland), bluffs, arroyos, and Semeniuk Slough (BonTerra 2011a).

The Project site contains numerous seasonal features throughout the upland mesa areas. The depressions are likely anthropogenic in nature resulting from over 75 years of active oil operations on the property and are located in low areas, roads, road ruts and shoulders, tire ruts, parking areas, oil sumps, and both abandoned and active oil well pads. *Sections 5.4.1-5.4.49* describe the results of the seasonal feature delineation and jurisdictional determination for each of the 49 seasonal features.

5.3.2 Wetland Hydrology Indicators

Wetland hydrology indicators observed at the site include primary indicators from Group A and Group B. Indicators in Group A are based on the direct observation of surface water or groundwater during a site visit. Group B consists of evidence that the site is subject to flooding or ponding, although it may not be inundated during the site visit. The main hydrology indicators directly observed during field surveys included:

- Surface Water (A1) – direct, visual observation of surface water (flooding or ponding) during the site visit. The USACE technical standard for monitoring hydrology *requires 14 or more consecutive days of flooding or ponding, or a water table 12 inches (30 cm)*

or less below the soil surface, during the growing season at a minimum frequency of 5 years in 10 (50 percent or higher probability) (USACE 2008).

- Surface Soil Cracks (B6) – surface soil cracks consist of shallow cracks that form when fine-grained mineral or organic sediments dry and shrink, often creating a network of cracks or small polygons (USACE 2008).

- Aquatic Invertebrates (B13) – presence of numerous live individuals, diapausing insect eggs or crustacean cysts, or dead remains of aquatic invertebrates, such as clams, snails, insects, ostracods, shrimp, and other crustaceans, either on the soil surface or clinging to plants or other emergent objects (USACE 2008).

Surface Water (A1)

Historic rain data at the Santa Ana Fire Station weather station number CA7888 is listed in *Table 6*. This weather station is approximately seven miles northeast of the Project site, thus rain quantities may be slightly different from the Project site due to the more inland location. However, rain data from areas closer to the Project site (Costa Mesa and Newport Beach) were incomplete, missing data from different months and years. Average rain quantities from 1971-2000 was 13.87 inches annually. As such, the average of this 30 year period is considered normal. Rain amounts occurring in more recent years 2001-2012 can be compared to the 30 year period as 'above' or 'below' normal.

Initial seasonal feature hydrological monitoring occurred in 2000 as part of the GLA wet season fairy shrimp surveys (GLA 2000). During these surveys, five features (Features VP1, VP2, D, MM, and PP) ponded water for a sufficient duration to support fairy shrimp. Additional hydrological monitoring occurred during wet season fairy shrimp surveys conducted during 2007, 2008, 2009, 2010, 2011, and 2012. During 2007-2008 and 2008-2009 wet season fairy shrimp surveys, Feature A was inundated for at least 14 days and supported fairy shrimp. During 2009-2010 wet season fairy shrimp surveys, three features (Features VP1, B, and V) ponded water for a sufficient duration to support fairy shrimp.

During the 2010-2011 rain season (GLA 2011a), GLA began a comprehensive hydrological monitoring program to 1) determine which features exhibited ponding for sufficient duration to meet the minimum thresholds for wetland hydrology, 2) determine which features exhibited ponding for sufficient duration to support listed fairy shrimp and then conduct protocol surveys, and 3) appropriately categorize the features as natural, low areas in roads, road ruts, parking areas, oil sumps, low areas on both abandoned and active oil well pads, etc. As noted in *Table 6*, the 2010-2011 rain season resulted in above normal rain quantities.

Table 6. Historic Rain Data for Santa Ana Fire Station, CA7888

Rain Season[1]	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Total Rain (Inches)	Above or Below Normal
2011-2012	0.85	1.67	0.63	1.30	0.78	1.51	3.22	0.00	0.00	0.12	0.00	0.00	10.08	Below
2010-2011	2.66	1.30	9.98	1.02	1.91	1.76	0.00	0.45	0.03	0.00	0.00	0.06	19.17	Above
2009-2010	0.62	0.00	3.39	6.01	4.21	0.26	1.25	0.00	0.00	0.02	0.00	0.00	15.76	Above
2008-2009	0.00	1.79	3.69	0.75	3.27	0.04	0.17	0.00	0.10	0.00	0.00	0.00	9.81	Below
2007-2008	0.40	1.19	1.02	3.76	1.95	0.06	0.02	0.17	0.00	0.00	0.00	0.00	8.57	Below
2006-2007	0.02	0.11	0.67	0.03	0.98	0.10	0.34	0.00	0.00	0.00	0.00	0.52	2.77	Below
2005-2006	0.18	0.30	0.58	0.64	1.68	2.13	2.88	0.70	0.02	0.00	*	0.00	9.11	Below
2004-2005	6.97	0.49	3.46	6.98	8.41	0.59	1.30	0.26	0.00	0.00	0.00	0.35	28.81	Above
2003-2004	0.02	0.66	0.75	0.39	4.23	0.52	0.56	0.00	0.00	0.00	0.00	0.00	7.13	Below
2002-2003	0.10	1.80	2.49	0.11	3.99	3.21	1.82	0.82	0.00	0.26	0.00	0.00	14.60	Above
2001-2002	0.00	0.63	1.19	0.67	0.23	0.50	0.23	0.01	0.00	0.00	0.00	0.00	3.46	Below
1971-2000[2]	0.34	1.17	1.77	3.18	3.05	2.85	0.67	0.25	0.11	0.02	0.12	0.34	13.87	Normal

Notes:
1 – NOAA 2012
2 – USDA-NRCS 2012c, averages monthly rain amounts from 1971-2000
* Data missing from NOAA dataset.

During the 2010-2011 rain season (GLA 2011a), hydrological monitoring was conducted at each feature within a few days of each rain event (October 22, October 25, November 2, November 5, November 11, November 22, November 24, December 7, and December 13) to record the number of consecutive days each feature was inundated. For example, the monitoring event on October 22 followed a period of seven straight days of rain and 12 features (Features VP2, B, M, P, R, N, Q, S, T, U, PP, and GG) exhibited ponding. On November 2 (14 days following the initiation of ponding), only six features (Features B, N, S, T, U, and GG) were still inundated. Monitoring continued through the rain events that began on December 16, culminating in two weeks of rain, which resulted in hydrological monitoring data

During the 2011-2012 rain season (GLA 2012b), hydrological monitoring was conducted at each feature beginning on October 12. Surveys were also conducted on October 20; November 9, 17, and 23; December 2, 13, and 19; January 16, 26, and 30; February 3, 16, and 22; March 24; April 2, 7, 14, 17, 21, and 25; and May 1, 2, and 10. During 2011-2012 wet season fairy shrimp surveys, four features (Features X, CC, GG, and HH) ponded water for a sufficient duration to support fairy shrimp. As noted above in *Table 6*, the 2011-2012 rain season resulted in below normal rain quantities.

Surface Soil Cracks (B6)

During an October 2012 site visit by Dudek biologists, surface soil cracks were observed at four features (Features G, N, P, and S). In these areas surface soil cracks were shallow creating polygons of cracked soil.

Aquatic Invertebrates (B13)

A variety of types of aquatic invertebrates including fairy shrimp, ostracods, and cladoceran ephippia have been observed on the Project site. During wet season fairy shrimp surveys in 2000, 2008, 2009, 2010, 2011, and 2012, the common versatile fairy shrimp (*Branchinecta lindahli*) and federally endangered San Diego fairy shrimp (*Branchinecta sandiegonensis*) were observed on the Project site (GLA 2000, GLA 2008b, GLA 2009b, GLA 2010, GLA 2011a, and GLA 2012b). Additionally, fairy shrimp cysts, ostracod shells, and cladoceran ephippia were observed during dry season fairy shrimp surveys in 2012 (ERS 2012). The ability of fairy shrimp cysts to hatch depends on rain frequency, quantities, and inundation periods. As such, it is important to compare annual rain data for subject wet season fairy shrimp surveys to previous years to analyze differences and similarities in normal rain data. Each species has specific requirements for successful cyst hatching.

The common versatile fairy shrimp is known to occurr in a variety of habitats including small areas with short durations of ponding such as grassland swale pools, marshes and anthropogenic created features including road-side ditches, quarries, bulldozed areas, and tire ruts. Cyst hatching best occurs from 5-20^{o}C, poorly at 25^{o}C, and not at all at 30^{o}C. The common versatile fairy shrimp has been observed to hatch and pass through adolescence in 13-14 days in coastal southern California mesa areas (Eriksen and Belk 1999).

The federally endangered San Diego fairy shrimp was thought to be the same species as the common versatile fairy shrimp in 1990 due to the similar range and habitat types and were later identified as two separate species. Typically cysts require 8 days to hatch at 5^{o}C, but at temperatures between 10-15^{o}C that period is shortened to 3-5 days. Higher temperatures do not result in hatching. Once larvae appear, they mature in 7-10 days if temperatures raise and are maintained around 20-22^{o}C. Approximately 10-20 days must pass before maturity and live for a maximum of 42 days (Eriksen and Belk 1999).

5.4 Jurisdictional Determination

5.4.1 Feature VP1

Feature VP1 is the site of depression, likely caused by standard oil field activities covering approximately 13,262 square feet (0.304 acre) with an approximate depth of 13 centimeters (cm) (*Figure 4* and *Table 3*). Well-used oil field operation roads (two paved and two unpaved) surround feature VP1 near the 17th Street entry/exit gate and traversed by oil field pipelines. Due to the presence of the federally endangered San Diego fairy shrimp, Feature VP1 is surrounded by protective fencing.

Vegetation

When Feature VP1 was first surveyed in 2000, it supported a predominance of saltgrass (*Distichlis spicata* [FAC]) and creeping spikerush (*Eleocharis macrostachya* [OBL]), with a very limited number of vernal pool associate species such as hairy pepperwort (*Marsilea vestita* [OBL]). However, during the last 12 years, the feature has been colonized and is now dominated by mule fat (*Baccharis salicifolia* [FAC]), saltgrass (FAC), and the non-native annual rabbitsfoot grass (*Polypogon monspeliensis* [FACW]). Non-dominant species within the feature include alkali mallow (*Malvella leprosa* [FACU]), creeping spikerush (OBL), western goldentop (*Euthamia occidentalis* [FACW]), alkali seaheath (*Frankenia salina* [FACW]), and Cuman ragweed (*Ambrosia psilostachya* [FACU]). This sample point passed the Dominance Test and meets the hydrophytic vegetation criterion (*Table 3*).

Soils

Feature VP1 soils are mapped as Myford Sandy Loam, 0-2 percent slopes by the USDA-NRCS (2012b). Feature VP1 exhibited a matrix of 2.5Y 3/2 with 10 percent redox of 5YR 4/6, meeting the indicator Redox Depression (F8). Thus, Feature VP1 meets the hydric soils criterion.

Hydrology

Feature VP1 exhibits surface ponding depths of up to six inches and was inundated for a sufficient duration to support fairy shrimp (GLA 2000), meeting Surface Water (A1) and Saturation (A3) primary indicators. During 1999-2000 wet season fairy shrimp surveys, San Diego fairy shrimp was observed (GLA 2000), meeting the Aquatic Invertebrates (B13) primary indicator. Additionally, this feature sample point passed the FAC-Neutral Test (D5), a secondary indicator. Feature VP1 has evidence of hydrology and thus meets the hydrology criterion.

Summary of Feature VP1 Characteristics

Feature VP1 meets three wetland parameters (hydrophytic vegetation, hydric soils and hydrology). Feature VP1 was identified during wetland delineation surveys conducted by GLA in 2009 and the USACE previously accepted jurisdiction over this feature in 2009 (GLA 2008a).

5.4.2 Feature VP2

Feature VP2 is a depression located near the edge of an existing oil well pad and is traversed by oil field pipelines. Feature VP2, south of Feature VP1, is adjacent to a dirt road. This feature covers approximately 919 square feet (0.021 acre).

Vegetation

Feature VP2 is dominated by mule fat (FAC), hyssop loosestrife (*Lythrum hyssopifolia* [OBL]), common brassbuttons (*Cotula coronipifolia* [OBL]), and clustered tarweed (*Deinandra fasciculata* [FACU]). Non-dominant species present within the feature include curly dock (*Rumex crispus* [FAC]) and salt heliotrope (*Heliotropium curassavicum* [FACU]). This feature sample point passed the Dominance Test and thus meets the hydrophytic vegetation criterion.

Soils

Feature VP2 soils are mapped as Myford Sandy Loam, 0-2 percent slopes by the USDA-NRCS (2012b). Soils in the upper six inches of this feature exhibited a matrix of 2.5Y 3/2 with five percent redox of 10YR 4/4, meeting the indicator Redox Depression (F8). Thus, Feature VP2 meets the hydric soils criterion.

Hydrology

Soils within and adjacent to Feature VP2 are highly compacted, the feature exhibits surface ponding. Feature VP2 exhibits surface ponding depths of up to two inches and was inundated for a sufficient duration to support fairy shrimp (GLA 2000). San Diego fairy shrimp was identified in this feature during 1999-2000 (GLA 2000) and 2010-2011 wet season fairy shrimp surveys (GLA 2011a), meeting the Aquatic Invertebrates (B13) primary indicator. Additionally, this feature sample point passes the FAC-Neutral Test (D5), a secondary indicator. Thus, Feature VP2 has evidence of hydrology and meets the wetland hydrology criterion.

Project Site Boundary

Joint Ownership Oil Facilities Areas / Consolidation Sites – Existing and Continuing Oil Operations

Biological Survey Area

Seasonal Feature Identification

Wetland Parameter

Wetland Hydrology

Hydrophytic Vegetation

Hydric Soils

V X Y Z U T S R P Q AA VP1 N O M VP3 VP2 J L K H I BB G D E CC F HH C EE DD B FF II GG JJ A KK QQ RR W SS TT LL NN MM OO PP

N

Feet
0 450 900

1 inch = 250 feet

SOURCE: 2011 Aerial provided by Fusco Engineering; Features Surveyed - Jurisdictional Determination/Delineation of 49 Ponding Features at the Newport Banning Ranch Property, Orange County, California. GLA 2012

DUDEK

NEWPORT BANNING RANCH

Figure 4

Wetland Parameter Field Assessment

Jurisdictional Determination of Seasonal Features

Date: 2/14/2013 - Created by: slucarelli - Last saved by: slucarelli - Path: \\HQTR-DATA1\Gisdata\Projects\7-248001\MAPDOC\MAPS\Wetland\Fig4_Wetland Parameter Field Assessment.mxd

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Summary of Feature VP2 Characteristics

While Feature VP2 is highly disturbed due to its location on an active oil well pad, it meets all three wetland criteria: a predominance of plants with an indicator status of FAC or wetter, hydric soils, and wetland hydrology. Feature VP2 was identified during wetland delineation surveys conducted by GLA in 2009 and the USACE previously accepted jurisdiction over this feature in 2009 (GLA 2008a).

5.4.3 Feature VP3

Feature VP3 is located immediately east of Feature VP1 (separated by a dirt road) and consists of an anthropogenic bulldozer scrape situated near an existing oil field pipeline. This feature covers approximately 282 square feet (0.006 acre).

Vegetation

Feature VP3 supports a mix of upland grasses and weedy annual species. Dominant species include red brome (*Bromus madritensis* ssp. *rubens* [UPL]), and salt sandspurry (*Spergularia marina* [OBL]). Non-dominant species within the feature include Cuman ragweed (FACU), curly dock (FAC), and clustered tarweed (FACU). This feature sample point did not pass the Dominance Test or Prevalence Index test and thus does not support hydrophytic vegetation. Thus, VP3 does not meet the hydrophytic vegetation criterion.

Soils

Feature VP3 soils are mapped as Myford Sandy Loam, 0-2 percent slopes by the USDA-NRCS (2012b). Soils in Feature VP3 are well-drained sandy loam with a matrix of 2.5Y 3/2 and no redoximorphic features. Feature VP3 lacks hydric soils and thus does not meet the hydric soils criterion.

Hydrology

Feature VP3 was inundated for a sufficient duration during the 2009-2010 rain season to support fairy shrimp, however the feature was inundated for less than 14 days (GLA 2010). During 2009-2010 wet season fairy shrimp surveys San Diego fairy shrimp was observed (GLA 2010). Thus, this feature sample point has evidence of hydrology and meets the wetland hydrology criterion.

Summary of Feature VP3 Characteristics

This feature meets one wetland parameter (hydrology).

5.4.4 Feature A

Feature A is a depression within a grassland area in the southwest quadrant of the site that covers approximately 1,609 square feet (0.037 acre). The depression is potentially the only "natural" depression on the Project site.

Vegetation

Feature A supports a predominance of hydrophytes in most years. Dominant species include short woollyheads (*Psilocarphus brevissimus* [FACW]) and western goldentop (FACW). Non-dominant species within the feature include annual rabbitsfoot grass (FACW), curly dock (FAC), saltgrass (FAC), clustered tarweed (FACU), and creeping spikerush (OBL). This feature sample point passed the Dominance Test and thus meets the hydrophytic vegetation criterion.

Soils

Feature A soils are mapped as Myford Sandy Loam, 0-2 percent slopes by the USDA-NRCS (2012b). The soils in Feature A exhibited soils with a matrix of 2.5YR 3/2 and no redoximorphic features. No hydric soil indicators were detected. As such, the feature does not meet the hydric soils criterion.

Hydrology

During 2007-2008 and 2008-2009 wet season fairy shrimp surveys, Feature A was inundated for at least 14 days (GLA 2008b and GLA 2009b), meeting the Surface Water (A1) primary indicator. Common versatile fairy shrimp was identified in this feature during 2007-2008 (GLA 2008b), 2008-2009 (GLA 2009b), and 2010-2011 (GLA 2011a) wet season fairy shrimp surveys, meeting the Aquatic Invertebrates (B13) primary indicator. Additionally, this feature sample point passes the FAC-Neutral Test (D5), a secondary indicator. Thus, this feature sample point has evidence of hydrology and meets the wetland hydrology criterion.

Summary of Feature A Characteristics

Feature A meets two of the three wetland criteria (hydrophytic vegetation and wetland hydrology).

5.4.5 Feature B

Feature B is an area of stockpiled remediated soil adjacent to two inactive or abandoned oil wells that covers approximately 1,297 square feet (0.030 acre).

Vegetation

This feature is dominated by facultative upland vegetation including clustered tarweed (FACU) and salt heliotrope (FACU). Non-dominant species within the feature include telegraphweed (*Heterotheca grandiflora* [UPL]), curly dock (FAC), and rod wirelettuce (*Stephanomeria virgata* [UPL]).This feature sample point did not pass the Dominance Test or meet the Prevalence Index criteria. Thus, Feature B does not meet the hydrophytic vegetation criterion.

Soils

Feature B soils are mapped as Myford Sandy Loam, 0-2 percent slopes by the USDA-NRCS (2012b). As noted, this area has been used for decades to stockpile soil that has been remediated for purposes of use on the site and thus serves as a borrow area on an as-needed basis. Borrow activities have at times left areas of ponded water following significant rain events. Nevertheless, with a matrix chroma of 2.5YR 3/2 and no redoximorphic features the soils at this location exhibit no hydric field indicators. Thus, Feature B does not meet the hydric soils criterion.

Hydrology

Feature B was inundated for a sufficient duration during the 2009-2010 and 2010-2011 rain seasons to support fairy shrimp (GLA 2010 and GLA 2011a). Additionally, during 2010-2011 wet season fairy shrimp surveys, Feature B was inundated for at least 14 days (GLA 2011a), meeting the Surface Water (A1) primary indicator. Common versatile fairy shrimp was detected in this feature during 2009-2010 (GLA 2010) and 2010-2011 (GLA 2011a) wet season fairy shrimp surveys, meeting the Aquatic Invertebrates (B13) primary indicator. Thus, this feature sample point has evidence of hydrology and meets the wetland hydrology criterion.

Summary of Feature B Characteristics

Feature B does not meet any of the three wetland criteria.

5.4.6 Feature C

Feature C is a depression covering approximately 35.6 square feet (0.001 acre), a depth of approximately 10 cm, and is located within an area of stockpiled concrete in the central portion of the site. Feature C is essentially a man-made feature that was created for the purpose of gaining access to a broken oil field pipeline which traverses the feature. The oil operator did not back-fill the depression following the excavation of the repair area.

Vegetation

Feature C supports a predominance of non-native plants with wetland indicator status of FAC or wetter including hyssop loosestrife (OBL) and common brassbuttons (OBL). This feature sample point passed the Dominance Test and thus meets the hydrophytic vegetation criterion.

Soils

Feature C soils are mapped as Myford Sandy Loam, 0-2 percent slopes by the USDA-NRCS (2012b). Soils exhibited a matrix color of 10YR 3/2 from zero to six inches. The soils are highly laminated and the ped faces exhibit 10 percent redoximorphic features of 7.5YR 3/4 in the layers between the laminations. Dried crude oil was observed in the soil profile at certain locations. This feature sample point does not meet the hydric soils criterion.

Hydrology

Feature C was inundated for a sufficient duration during the 2010-2011 rain season to support fairy shrimp (GLA 2011a). Common versatile fairy shrimp was detected in this feature during 2010-2011 wet season fairy shrimp surveys (GLA 2011a) and common versatile fairy shrimp, ostracod shells, and cladoceran ephippia were present in this feature during 2012 dry season fairy shrimp surveys (ERS 2012), meeting the Aquatic Invertebrates (B13) primary indicator. Additionally, this feature sample point passes the FAC-Neutral Test (D5), a secondary indicator. Thus, this feature sample point has evidence of hydrology and meets the wetland hydrology criterion.

Summary of Feature C Characteristics

Feature C meets two of three wetland criteria (hydrophytic vegetation and wetland hydrology).

5.4.7 Feature D

Feature D covers approximately 104 square feet (0.002 acre) and was created by anthropogenic excavation for oil field maintenance within an area of intensive oil field activities and is adjacent to an oil field pipeline. Soils in this feature have been documented as contaminated by crude oil and contain debris from oil field operations.

Vegetation

Feature D is dominated by clustered tarweed (FACU) and common brassbuttons (OBL). Non-dominant species within the feature include non-native annual fescue (*Vulpia myuros* [FACU]) and annual rabbitsfoot grass (FACW). The vegetation did not pass the Dominance Test. However, using the Prevalence Index, the feature meets the minimum threshold for wetland

vegetation with a score of 2.72. However, a feature sample point that meets the Prevalence Index criteria must also meet the hydric soils and wetland hydrology criteria to meet the hydrophytic vegetation criterion. As discussed below, the wetland hydrology parameter is met but the hydric soils parameter is not. Therefore, the feature sample point does not meet the hydrophytic vegetation criterion.

Soils

Feature D soils are mapped as Myford Sandy Loam, 9-30 percent slopes, eroded by the USDA-NRCS (2012b). The soils exhibited a matrix color of 10YR 3/3 in the upper three inches with a clay loam texture and no redoximorphic features. From a depth of three to five inches, the soils are disturbed and exhibit an underlying oil matrix. Thus, this feature sample point does not meet the hydric soils criterion.

Hydrology

Feature D was inundated for a sufficient duration during the 1999-2000 rain season to support fairy shrimp (GLA 2000). Common versatile fairy shrimp was detected in this feature during 1999-2000 wet season fairy shrimp surveys (GLA 2000) and during 2012 dry season fairy shrimp surveys (ERS 2012), meeting the Aquatic Invertebrates (B13) primary indicator. Thus, this feature sample point has evidence of hydrology and meets the wetland hydrology criterion.

Summary of Feature D Characteristics

Feature D meets one of the three wetland criteria (wetland hydrology).

5.4.8 Feature E

Feature E is an excavated oil sump created to capture potential oil spills from existing and historic wells. The feature is directly north of an inactive or abandoned oil well and has been documented to contain areas of contaminated soils that will require future remediation. This feature covers approximately 2,129 square feet (0.049 acres).

Vegetation

Feature E supports two dominant species, mule fat (FAC) and shortpod mustard (*Hirschfeldia incana* [UPL]). Salt heliotrope (FACU) is non-dominant within the feature. The feature failed the Dominance Test and has a Prevalence Index of 3.47. Thus, this feature sample point lacks wetland vegetation and does not meet the hydrophytic vegetation criterion.

Soils

Feature E soils are mapped as Myford Sandy Loam, 9-30 percent slopes by the USDA-NRCS (2012b). The soils exhibited a matrix color of 10YR 3/2 in the upper six inches and no redoximorphic features. The soil profile was disturbed by an oil layer from six to twelve inches. Thus, this feature sample point does not meet the hydric soils criterion.

Hydrology

Feature E was inundated for a sufficient duration during the 2010-2011 rain season to support fairy shrimp (GLA 2011a). San Diego fairy shrimp was detected in this feature during 2010-2011 wet season fairy shrimp surveys (GLA 2011), meeting the Aquatic Invertebrates (B13) primary indicator. Thus, this feature sample point has evidence of hydrology and meets the wetland hydrology criterion.

Summary of Feature E Characteristics

Feature E meets one of the three wetland criteria (wetland hydrology).

5.4.9 Feature F

Feature F is an anthropogenic depression created by a combination of excavation and berming. The feature covers approximately 1,303 square feet (0.030 acre) and occurs in an upland annual grassland area.

Vegetation

Feature F supports, as dominant native species, salt sandspurry (OBL) and clustered tarweed (FACU). Non-dominants within the feature are native willow baccharis (*Baccharis salicina* [FACW]) and non-natives star-thistle (*Centaurea melitensis* [UPL]) and shortpod mustard (UPL). The vegetation did not pass the Dominance Test. However, using the Prevalence Index, the feature meets the minimum threshold for wetland vegetation, with a score of 2.62. However, a feature sample point that meets the Prevalence Index criteria must meet the hydric soils and wetland hydrology criteria to satisfy the hydrophytic vegetation indicator. As discussed below, the hydric soils and wetland hydrology parameters were not met. Therefore, Feature F does not meet the hydrophytic vegetation criterion.

Soils

Feature F soils are mapped as Myford Sandy Loam, 9-30 percent slopes, eroded by the USDA-NRCS (2012b). The soils exhibited a matrix color of 10YR 3/2 in the upper six inches with no

redoximorphic features. Thus, this feature sample point lacks hydric soils and does not meet the hydric soils criterion.

Hydrology

Wetland hydrology indicators were not observed in this feature during delineations, hydrological monitoring, or fairy shrimp surveys (ERS 2012, GLA 2011a, GLA 2012a, and GLA 2012b); therefore, this feature sample point lacks wetland hydrology and does not meet the hydrology criterion.

Summary of Feature F Characteristics

Feature F does not meet any wetland indicators.

5.4.10 Feature G

Feature G is an oil field sump created to contain oil spills and is crossed by a number of oil field pipelines. The feature covers approximately 128 square feet (0.003 acre).

Vegetation

Feature G supports soft brome (*Bromus hordeaceus* [FACU]), clustered tarweed (FACU), rod wirelettuce (UPL), shortpod mustard (UPL), common brassbuttons (OBL), and Italian thistle (*Carduus pycnocephalus* [UPL]). This feature sample point failed the Dominance Test and does not meet the Prevalence Index criteria. Thus, this feature sample point does not meet the hydrophytic vegetation criterion.

Soils

Feature G soils are mapped as Myford Sandy Loam, 9-30 percent slopes, eroded by the USDA-NRCS (2012b). Soils exhibit a matrix color of 2.5YR 3/2 in the upper six inches and contain no redoximorphic features. Soils in this feature are not hydric and thus do not meet the hydric soils criterion.

Hydrology

Feature G was inundated for a sufficient duration during the 2010-2011 rain season to support fairy shrimp (GLA 2011a). San Diego fairy shrimp was detected in this feature during 2010-2011 wet season fairy shrimp surveys (GLA 2011), meeting the Aquatic Invertebrates (B13) primary indicator. Additionally, Dudek observed Surface Soil Cracks (B6) during the October 2012 field survey. Thus, this feature sample point has evidence of hydrology and meets the wetland hydrology criterion.

Summary of Feature G Characteristics

Feature G meets one of the three wetland criteria (wetland hydrology).

5.4.11 Feature H

Feature H is an area of disturbed ground within the oil field directly adjacent to well-used oil field operation roads. The feature covers approximately 934 square feet (0.021 acre) and is likely an anthropogenic oil field depression created by excavation.

Vegetation

Feature H is dominated by native clustered tarweed (FACU) and non-native annual yellow sweetclover (*Melilotus indicus* [FACU]). Non-dominant non-natives present within the feature include soft brome (FACU) and curly dock (FAC). Non-dominant natives include salt sandspurry (OBL) and Cuman ragweed (FACU). The vegetation associated with the feature failed the Dominance Test and does not meet the criteria for the Prevalence Index. Thus, this feature sample point does not meet the hydrophytic vegetation criterion.

Soils

Feature H soils are mapped as Myford Sandy Loam, 0-2 percent slopes by the USDA-NRCS (2012b). Soils exhibit a matrix color of 10YR 3/3 in the upper six inches and contain no redoximorphic features. Soils in this feature are not hydric and thus do not meet the hydric soils criterion.

Hydrology

San Diego fairy shrimp was detected in this feature during 2012 dry season fairy shrimp surveys (ERS 2012), meeting the Aquatic Invertebrates (B13) primary indicator. Thus, this feature sample point has evidence of hydrology and meets the wetland hydrology criterion.

Summary of Feature H Characteristics

Feature H meets one of the three wetland criteria (wetland hydrology).

5.4.12 Feature I

Feature I is an anthropogenic depression created by a combination of excavation and berming. The feature covers approximately 1,201 square feet (0.028 acre) and occurs in an annual grassland area.

Vegetation

Feature I supports two dominant species, which are both non-native: annual yellow sweetclover (FACU) and star-thistle (UPL). Non-dominant species within the feature include soft brome (FACU), shortpod mustard (UPL), curly dock (FAC), and annual rabbitsfoot grass (FACW). Non-dominant natives present in the feature include clustered tarweed (FACU) and salt heliotrope (FACU). The feature sample point failed the Dominance Test and did not meet the Prevalence Index criteria for hydrophytic vegetation. Thus, this feature sample point does not meet the hydrophytic vegetation criterion.

Soils

Feature I soils are mapped as Myford Sandy Loam, 0-2 percent slopes by the USDA-NRCS (2012b). The soils exhibited a matrix color of 10YR 3/3 in the upper six inches and contained no redoximorphic features. Soils in this feature are not hydric and thus do not meet the hydric soils criterion.

Hydrology

Feature I was inundated for a sufficient duration during the 2010-2011 rain season to support fairy shrimp (GLA 2011a). San Diego fairy shrimp was detected in this feature during 2010-2011 wet season fairy shrimp surveys (GLA 2011), meeting the Aquatic Invertebrates (B13) primary indicator. Thus, this feature sample point has evidence of hydrology and meets the wetland hydrology criterion.

Summary of Feature I Characteristics

Feature I meets one of the three wetland criteria (wetland hydrology).

5.4.13 Feature J

Feature J is a depression likely anthropogenic created that covers approximately 3,810 square feet (0.087 acre) and occurs in an annual grassland area.

Vegetation

Feature J is dominated by native clustered tarweed (FACU) and non-native soft brome (FACU). Non-dominant species include red brome (UPL), annual yellow sweetclover (FACU), and annual rabbitsfoot grass (FACW). The feature sample point failed the Dominance Test and did not meet the Prevalence Index criteria for hydrophytic vegetation. Thus, this feature sample point does not meet the hydrophytic vegetation criterion.

Soils

Feature J soils are mapped as Myford Sandy Loam, 0-2 percent slopes by the USDA-NRCS (2012b). The soils exhibited a matrix color of 10YR 3/3 in the upper six inches and contained no redoximorphic features. Soils in this feature are not hydric and thus do not meet the hydric soils criterion.

Hydrology

Feature J was inundated for a sufficient duration during the 2010-2011 rain season to support fairy shrimp (GLA 2011a). San Diego fairy shrimp was detected in this feature during 2010-2011 wet season fairy shrimp surveys (GLA 2011), meeting the Aquatic Invertebrates (B13) primary indicator. Thus, this feature sample point has evidence of hydrology and meets the wetland hydrology criterion.

Summary of Feature J Characteristics

Feature J meets one of the three wetland criteria (wetland hydrology).

5.4.14 Feature K

Feature K is a depression created by anthropogenic excavation of material to create adjacent berms. This feature is located within non-native grassland and covers approximately 621 square feet (0.014 acre).

Vegetation

Feature K supports as dominant native clustered tarweed (FACU) and non-native annual yellow sweetclover (FACU). Non-dominant species within the feature include non-native shortpod mustard (UPL), soft brome (FACU) and native salt heliotrope (FACU). The feature sample point failed the Dominance Test and did not meet the Prevalence Index criteria for hydrophytic vegetation. Thus, this feature sample point does not meet the hydrophytic vegetation criterion.

Soils

Feature K soils are mapped as Myford Sandy Loam, 0-2 percent slopes by the USDA-NRCS (2012b). The soils exhibited a matrix color of 10YR 3/3 in the upper six inches and contained no redoximorphic features. Soils in this feature are not hydric and thus do not meet the hydric soils criterion.

Hydrology

Common versatile fairy shrimp and ostracods shells were present in this feature during 2012 dry season fairy shrimp surveys (ERS 2012), meeting the Aquatic Invertebrates (B13) primary indicator. Thus, this feature sample point has evidence of hydrology and meets the wetland hydrology criterion.

Summary of Feature K Characteristics

Feature K meets one of the three wetland criteria (wetland hydrology).

5.4.15 Feature L

Feature L covers approximately 127 square feet (0.003 acre) and occurs in an annual grassland area. The feature is likely an anthropogenic excavation created as part of oil field operations. The soil was likely used to create the adjacent berms.

Vegetation

Feature L is dominated by non-native annual yellow sweetclover (FACU) and native clustered tarweed (FACU) and salt heliotrope (FACU). Occurrences of non-native star-thistle (UPL) are present within the feature. The feature sample point failed the Dominance Test and did not meet the Prevalence Index criteria for hydrophytic vegetation. Thus, this feature sample point does not meet the hydrophytic vegetation criterion.

Soils

Feature L soils are mapped as Myford Sandy Loam, 0-2 percent slopes by the USDA-NRCS (2012b). The soils exhibited a matrix color of 10YR 3/3 in the upper six inches and contained no redoximorphic features. Soils in this feature are not hydric and thus do not meet the hydric soils criterion.

Hydrology

Fairy shrimp cysts and ostracods shells were present in this feature during 2012 dry season fairy shrimp surveys (ERS 2012), meeting the Aquatic Invertebrates (B13) primary indicator. Thus, this feature sample point has evidence of hydrology and meets the wetland hydrology criterion.

Summary of Feature L Characteristics

Feature L meets one of the three wetland criteria (wetland hydrology).

5.4.16 Feature M

Feature M covers approximately 608 square feet (0.014 acre) and occurs in the oil field pipe and material storage yard. Standpipes from oil field infrastructure occur within the area in which rainwater collects during and immediately following rain events.

Vegetation

Feature M is dominated by non-native Spanish false fleabane (*Pulicaria paludosa* [FAC]) and soft brome (FACU). Non-dominant species within the feature include native clustered tarweed (FACU) and mule fat (FAC). Non-dominant non-natives include pampas grass (*Cortaderia selloana* [FACU]) and annual rabbitsfoot grass (FACW). The feature sample point failed the Dominance Test and did not meet the Prevalence Index criteria for hydrophytic vegetation. Thus, this feature sample point does not meet the hydrophytic vegetation criterion.

Soils

Feature M soils are mapped as Myford Sandy Loam, 0-2 percent slopes by the USDA-NRCS (2012b). The soils exhibited a matrix color of 10YR 3/3 in the upper six inches and contained no redoximorphic features. Soils in this feature are not hydric and thus do not meet the hydric soils criterion.

Hydrology

Feature M was inundated for a sufficient duration during the 2010-2011 rain season to support fairy shrimp (GLA 2011a). Common versatile fairy shrimp was detected in this feature during 2010-2011 wet season fairy shrimp surveys (GLA 2011) and common versatile fairy shrimp and ostracod shells were present in this feature during 2012 dry season fairy shrimp surveys (ERS 2012), meeting the Aquatic Invertebrates (B13) primary indicator. Thus, this feature sample point has evidence of hydrology and meets the wetland hydrology criterion.

Summary of Feature M Characteristics

Feature M meets one of the three wetland criteria (wetland hydrology).

5.4.17 Feature N

Feature N covers approximately 1,258 square feet (0.029 acre) and has a depth of approximately 5-8 centimeters (cm). The feature is located in the gravel oil field pipe and material storage yard and surrounded by well-used oil field operation roads.

Vegetation

Feature N is dominated by clustered tarweed (FACU) and mule fat (FAC). Non-dominant species within this feature include native western goldentop (FACW), salt heliotrope (FACU), telegraphweed (UPL), and rod wirelettuce (UPL). Non-dominant non-natives include shortpod mustard (UPL) and hyssop loosestrife (FACW). The feature sample point failed the Dominance Test and did not meet the Prevalence Index criteria for hydrophytic vegetation. Thus, this feature sample point does not meet the hydrophytic vegetation criterion.

Soils

Feature N soils are mapped as Myford Sandy Loam, 0-2 percent slopes by the USDA-NRCS (2012b). The soils exhibited a matrix color of 10YR 3/3 in the upper four inches and contained no redoximorphic features. As noted, Feature N occurs within a parking and equipment storage area and the soils are highly compacted. Refusal occurred at a depth of four inches. This feature sample point lacks hydric soils and thus does not meet the hydric soils criterion.

Hydrology

Feature N was inundated for at least 14 days during 2010-2011 wet season fairy shrimp surveys, (GLA 2011a), meeting the Surface Water (A1) primary indicator. Common versatile fairy shrimp was detected in this feature during 2010-2011 wet season fairy shrimp surveys (GLA 2011) and fairy shrimp cysts were present during 2012 dry season fairy shrimp surveys (ERS 2012), meeting the Aquatic Invertebrates (B13) primary indicator. Additionally, Dudek observed Surface Soil Cracks (B6) during the October 2012 field survey. Thus, this feature sample point has evidence of hydrology and meets the wetland hydrology criterion.

Summary of Feature N Characteristics

Feature N meets one of the three wetland criteria (wetland hydrology).

5.4.18 Feature O

Feature O is a depression that occurs within a gravel parking and equipment storage area, surrounded by well-used oil field operation roads, and is located northeast of Feature N. The feature covers approximately 154 square feet (0.004 acre) and has a maximum depth of approximately 2 cm.

Vegetation

Feature O is dominated by non-native longbeak stork's bill (*Erodium botrys* [FACU]) and native clustered tarweed (FACU). The feature sample point failed the Dominance Test and did not meet the Prevalence Index criteria for hydrophytic vegetation. Thus, this feature sample point does not meet the hydrophytic vegetation criterion.

Soils

Feature O soils are mapped as Myford Sandy Loam, 0-2 percent slopes by the USDA-NRCS (2012b). A soil pit was not excavated due to the highly compacted character of the parking areas (asphalt/gravel), lack of hydric soils at nearby and adjacent Feature N, and the strong predominance of upland vegetation. Therefore, it is assumed that this feature sample point lacks hydric soils as well and similarly does not meet the hydric soils criterion.

Hydrology

Wetland hydrology indicators were not observed in this feature during delineations or hydrological monitoring (GLA 2011a, GLA 2012a, and GLA 2012b); therefore, this feature sample point lacks wetland hydrology and does not meet the hydrology criterion.

Summary of Feature O Characteristics

Feature O does not meet any wetland indicators.

5.4.19 Feature P

Feature P is a depression within a soil remediation area near the 17th Street entry to the site. The feature covers approximately 402 square feet (0.009 acre) and has a depth of approximately 5-8 cm. Feature P is the site of a depression, likely caused by anthropogenic activities adjacent to an area where soil is stockpiled for remediation.

Vegetation

Feature P is dominated by western goldentop (FACW) and common brassbuttons (OBL). Non-dominant non-native species within the feature include hyssop loosestrife (FACW) and annual rabbitsfoot grass (FACW). Non-dominant, native species present in the feature include mule fat (FAC) and clustered tarweed (FACU). This feature sample point passed the Dominance Test and thus meets the hydrophytic vegetation criterion.

Soils

Feature P soils are mapped as Myford Sandy Loam, 0-2 percent slopes by the USDA-NRCS (2012b). The soils exhibited a matrix color of 10YR 3/2 in the upper four inches and did not contain redoximorphic features. From four to five inches the feature has a sand layer and from five to eight inches the matrix is again 10YR 3/2 with no redoximorphic features. Thus, this feature lacks hydric soils and does not meet the hydric soils criterion.

Hydrology

Feature P was inundated for a sufficient duration during the 2010-2011 rain season to support fairy shrimp (GLA 2011a). Common versatile fairy shrimp was detected in this feature during 2010-2011 wet season fairy shrimp surveys (GLA 2011) and during 2012 dry season fairy shrimp surveys (ERS 2012), meeting the Aquatic Invertebrates (B13) primary indicator. Additionally, Dudek observed Surface Soil Cracks (B6) during the October 2012 field survey and this feature sample point passed the FAC-Neutral Test (D5), a secondary indicator. Thus, this feature sample point has evidence of hydrology and meets the wetland hydrology criterion.

Summary of Feature P Characteristics

Feature P meets two of the three wetland criteria (hydrophytic vegetation and wetland hydrology).

5.4.20 Feature Q

Feature Q is a depression that straddles the earthen shoulder along a well-used access road from the 17th Street gate. Feature Q is a low area within the partially paved and partially dirt roadway and associated shoulder. The feature covers approximately 195 square feet (0.004 acre), has a maximum depth of approximately 5 cm, and experiences ephemeral inundation.

Vegetation

Feature Q is largely unvegetated with the exception of a narrow strip that consists of earthen shoulder. Two species were detected: annual yellow sweetclover (FACU) and clustered tarweed (FACU). The feature sample point failed the Dominance Test and did not meet the Prevalence Index criteria for hydrophytic vegetation. Thus, this feature sample point does not meet the hydrophytic vegetation criterion.

Soils

Feature Q soils are mapped as Myford Sandy Loam, 0-2 percent slopes by the USDA-NRCS (2012b). Feature Q occurs on an entry road and is underlain by a combination of asphalt, asphalt

with a thin layer of sediment, and earthen shoulder. The soils were not evaluated for hydric conditions given the developed nature of the feature and the fact that portions of the feature are underlain by asphalt or highly compacted soil. Therefore, it is assumed that this feature sample point lacks hydric soils and thus does not meet the hydric soils criterion.

Hydrology

Fairy shrimp cysts and ostracod shells were present in this feature during 2012 dry season fairy shrimp surveys (ERS 2012), meeting the Aquatic Invertebrates (B13) primary indicator. Thus, this feature sample point has evidence of hydrology and meets the wetland hydrology criterion.

Summary of Feature Q Characteristics

Feature Q meets one of the three wetland criteria (wetland hydrology).

5.4.21 Feature R

Feature R is a roadside depression, one of a series of depressions occupying the paved parking area, well-used access road, and adjacent earthen shoulder near the 17th Street entrance where rainwater and runoff collects for brief periods during and immediately following storm events. The feature covers approximately 260 square feet (0.006 acre).

Vegetation

Feature R is dominated by non-native common brassbuttons (OBL). Non-dominant non-native species within the feature include soft brome (FACU), shortpod mustard (UPL), hyssop loosestrife (FACW), and annual rabbitsfoot grass (FACW). Non-dominant native species present in the feature include Cuman ragweed (FACU) and clustered tarweed (FACU). This feature sample point passed the Dominance Test and thus meets the hydrophytic vegetation criterion.

Soils

Feature R soils are mapped as Myford Sandy Loam, 0-2 percent slopes by the USDA-NRCS (2012b). Feature R exhibits highly compacted soil on dirt along the gravel road shoulder estimated in the upper three inches and refusal at the surface. Thus, soil pits were not attempted in this area. However, given the developed context of this feature, it is assumed that hydric soils are absent. Therefore, this feature sample point does not meet the hydric soils criterion.

Hydrology

Feature R was inundated for a sufficient duration during the 2010-2011 rain season to support fairy shrimp (GLA 2011a). Common versatile fairy shrimp was detected in this feature during

2010-2011 wet season fairy shrimp surveys (GLA 2011), meeting the Aquatic Invertebrates (B13) primary indicator. Additionally, this feature sample point passes the FAC-Neutral Test (D5), a secondary indicator. Thus, this feature sample point has evidence of hydrology and meets the wetland hydrology criterion.

Summary of Feature R Characteristics

Feature R meets two of the three wetland criteria (hydrophytic vegetation and wetland hydrology).

5.4.22 Feature S

Feature S is one of a series of depressions along the shoulder of the main well-used access road that is characterized by highly compacted soil and gravel adjacent to the major access road at the 17th Street entrance to the site. The feature covers approximately 128 square feet (0.003 acre) and has a maximum depth of approximately 4 cm.

Vegetation

Feature S is dominated by native clustered tarweed (FACU) and non-native common brassbuttons (OBL). Non-dominant species include non-native hyssop loosestrife (FACW), shortpod mustard (UPL), and annual rabbitsfoot grass (FACW). The vegetation did not pass the Dominance Test. However, using the Prevalence Index, the feature meets the minimum threshold for wetland vegetation, with a score of 1.89. However, a feature sample point that meets the Prevalence Index criteria must meet the hydric soils and wetland hydrology indicators to satisfy the hydrophytic vegetation parameter. As discussed below, the wetland hydrology parameter is met but the hydric soils parameter is not. Therefore, the feature sample point does not meet the hydrophytic vegetation criterion.

Soils

Feature S soils are mapped as Myford Sandy Loam, 0-2 percent slopes by the USDA-NRCS (2012b). A soil pit was not excavated due to the highly compacted character of the road shoulder. Therefore, it is assumed that this feature sample point lacks hydric soils and thus does not meet the hydric soils criterion.

Hydrology

During 2010-2011 wet season fairy shrimp surveys, Feature S was inundated for at least 14 days (GLA 2011a), meeting the Surface Water (A1) primary indicator. Feature S supported Sediment

Deposits (B2), Surface Soil Cracks (B6), and Water-Stained Leaves (B9) as observed by Dudek in October 2012. Thus, this feature sample point meets the wetland hydrology criterion.

Summary of Feature S Characteristics

Feature S meets one of the three wetland criteria (wetland hydrology).

5.4.23 Feature T

Feature T is one of a series of depressions occupying the paved parking area, well-used access road, and adjacent earthen shoulder near the 17th Street entrance. The feature covers approximately 188 square feet (0.004 acre) and has a maximum depth of approximately 12-15 cm.

Vegetation

Feature T is a low area at the edge of an asphalt access road near the 17th Street entrance to the Project site and is unvegetated. Therefore, this feature sample point lacks hydrophytic vegetation and does not meet the hydrophytic vegetation criterion.

Soils

Feature T soils are mapped as Myford Sandy Loam, 0-2 percent slopes by the USDA-NRCS (2012b). Feature T occurs on a major site access road and nearly all of the area that exhibits ponding is paved with asphalt. Collection of soil data was limited. Therefore, it is assumed that this feature sample point lacks hydric soils and thus does not meet the hydric soils criterion.

Hydrology

During 2010-2011 wet season fairy shrimp surveys, Feature T was inundated for at least 14 days (GLA 2011a), meeting the Surface Water (A1) primary indicator. Common versatile fairy shrimp was detected in this feature during 2010-2011 and 2011-2012 wet season fairy shrimp surveys (GLA 2011a and GLA 2012b), meeting the Aquatic Invertebrates (B13) primary indicator. Thus, this feature sample point has evidence of hydrology and meets the wetland hydrology criterion.

Summary of Feature T Characteristics

Feature T meets one of the three wetland criteria (wetland hydrology).

5.4.24 Feature U

Feature U is one of a series of depressions occupying the paved parking area, well-used access road, and adjacent earthen shoulder near the 17th Street entrance. The feature covers approximately 97.0 square feet (0.002 acre) and has a maximum depth of approximately 4 cm.

Vegetation

Feature U is a low area at the edge of an asphalt access road near the 17th Street entrance to the Project site and is unvegetated. Therefore, this feature sample point lacks hydrophytic vegetation and does not meet the hydrophytic vegetation criterion.

Soils

Feature U soils are mapped as Myford Sandy Loam, 0-2 percent slopes by the USDA-NRCS (2012b). Feature U occurs in an area paved with asphalt and as a result the collection of soil data was limited. Therefore, it is assumed that this feature sample point lacks hydric soils and does not meet the hydric soils criterion.

Hydrology

During 2010-2011 wet season fairy shrimp surveys, Feature U was inundated for at least 14 days (GLA 2011a), meeting the Surface Water (A1) primary indicator. However, this feature is lined with tank bottom slurry and is underlain with highly compacted soils creating an impervious surface allowing water to pond. The ponding in this feature is due to anthropogenic additions and not an indicator of wetland hydrology. Thus, this feature sample point lacks wetland hydrology and does not meet the hydrology criterion.

Summary of Feature U Characteristics

Feature U does not contain characteristic primary or secondary wetland indicators.

5.4.25 Feature V

Feature V is a depression on an inactive or abandoned oil well pad near the northeast corner of the Project site that covers approximately 3,918 square feet (0.090 acre).

Vegetation

Feature V is dominated by mule fat (FAC), shortpod mustard (UPL), and curly dock (FAC). Non-dominant species include salt heliotrope (FACU), and alkali seaheath (FACW). This feature sample point passed the Dominance Test and thus meets the hydrophytic vegetation criterion.

Soils

Feature V soils are mapped as Myford Sandy Loam, 0-2 percent slopes by the USDA-NRCS (2012b). The soils exhibited a matrix color of 10YR 3/2 in the upper six inches and contained no redoximorphic features. Thus, Feature V lacks hydric soils and does not meet the hydric soils criterion.

Hydrology

Feature V was inundated for a sufficient duration during the 2009-2010 rain season to support fairy shrimp (GLA 2010). Common versatile fairy shrimp was detected in this feature during 2009-2010 wet season fairy shrimp surveys (GLA 2010), meeting the Aquatic Invertebrates (B13) primary indicator. Thus, this feature sample point contains evidence of hydrology and meets the wetland hydrology criterion.

Summary of Feature V Characteristics

Feature V meets two of the three wetland criteria (hydrophytic vegetation and wetland hydrology).

5.4.26 Feature W

Feature W is located in the southeast quadrant of the site within an annual grassland depression with residences adjacent to the south. The feature was likely created during grading activities in the 1960s and covers approximately 11,477 square feet (0.263 acre).

Vegetation

Feature W is dominated by red brome (UPL), Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum* [FAC]), and shortpod mustard (UPL). This feature sample point failed the Dominance Test and did not meet the Prevalence Index criteria. Thus, this feature sample point does not meet the hydrophytic vegetation criterion.

Soils

Feature W soils are mapped as Myford Sandy Loam, 2-9 percent slopes by the USDA-NRCS (2012b). The soils exhibited a matrix color of 10YR 3/2 in the upper six inches and contained no redoximorphic features. At a depth of six inches there was a layer of dense redox that appears relictual based on the color contrast and sharp edges. Thus, this was not considered to be indicative of hydric soils. This feature sample point does not have hydric soils and does not meet the hydric soils criterion.

Hydrology

Common versatile fairy shrimp and ostracod shells were present in this feature during 2012 dry season fairy shrimp surveys (ERS 2012), meeting the Aquatic Invertebrates (B13) primary indicator. Thus, this feature sample point has evidence of hydrology and meets the wetland hydrology criterion.

Summary of Feature W Characteristics

Feature W meets one of the three wetland criteria (wetland hydrology).

5.4.27 Feature X

Feature X is one of a series of depressions and road ruts within a well-used access road on the Project site. The feature covers approximately 291 square feet (0.007 acre) and has a maximum depth of approximately 7-8 cm.

Vegetation

Feature X is mostly unvegetated with limited quantities of upland grasses and forbs including dominant native clustered tarweed (FACU) and non-native common brassbuttons (OBL). Non-dominant species within the feature include non-native soft brome (FACU) and annual rabbitsfoot grass (FACW). The vegetation did not pass the Dominance Test. However, using the Prevalence Index, the feature meets the minimum threshold for wetland vegetation, with a score of 3.00. However, a feature sample point that meets the Prevalence Index criteria must meet the hydric soils and wetland hydrology indicators to satisfy the hydrophytic vegetation parameter. As discussed below, the wetland hydrology parameter is met but the hydric soils parameter is not. Therefore, the feature sample point does not have hydrophytic vegetation and does not meet the hydrophytic vegetation criterion.

Soils

Feature X soils are mapped as Myford Sandy Loam, 0-2 percent slopes by the USDA-NRCS (2012b). Feature X occurs on a major site access road the soils of which are highly compacted due to vehicular road use. The soils exhibited a matrix color of 5YR 3/3 in the upper six inches with no redoximorphic features. Thus, the feature sample point lacks hydric soils and does not meet the hydric soils criterion.

Hydrology

Feature X was inundated for a sufficient duration during the 2011-2012 rain season to support fairy shrimp (GLA 2012b). Additionally, during the 2012-2013 rain season, Feature X was

inundated for at least 14 days, meeting the Surface Water (A1) primary indicator. Common versatile fairy shrimp was detected in this feature during 2011-2012 wet season fairy shrimp surveys (GLA 2012b) and common versatile fairy shrimp and ostracod shells were present in this feature during 2012 dry season fairy shrimp surveys (ERS 2012), meeting the Aquatic Invertebrates (B13) primary indicator. Thus, this feature sample point has evidence of hydrology and meets the wetland hydrology criterion.

Summary of Feature X Characteristics

Feature X meets one of the three wetland criteria (wetland hydrology).

5.4.28 Feature Y

Feature Y lies fully within a site access road well-used by vehicular traffic. The feature covers approximately 53.3 square feet (0.001 acre) and has a maximum depth of approximately 7 cm.

Vegetation

Feature Y is dominated by annual rabbitsfoot grass (FACW), star-thistle (UPL), mule fat (FAC), and Menzies' goldenbush (*Isocoma menziesii* [UPL]). Non-dominant within the feature is native clustered tarweed (FACU). This feature sample point failed the Dominance Test and did not meet the Prevalence Index criteria. Thus, the feature sample point does not meet the hydrophytic vegetation criterion.

Soils

Feature Y soils are mapped as Myford Sandy Loam, 0-2 percent slopes by the USDA-NRCS (2012b). The soils exhibited a matrix color of 7.5YR 3/3 in the upper six inches and contained no redoximorphic features. Thus, the feature sample point lacks hydric soils and does not meet the hydric soils criterion.

Hydrology

During the 2012-2013 rain season, Feature Y was inundated for at least 14 days, meeting the Surface Water (A1) primary indicator. Common versatile fairy shrimp and ostracod shells were present in this feature during 2012 dry season fairy shrimp surveys (ERS 2012), meeting the Aquatic Invertebrates (B13) primary indicator. Thus, this feature sample point has evidence of hydrology and meets the wetland hydrology criterion.

Summary of Feature Y Characteristics

Feature Y meets one of the three wetland criteria (wetland hydrology).

5.4.29 Feature Z

Feature Z consists of an anthropogenic excavated trench constructed to contain oil spills from oil field pipelines that run over the trench. The feature is linear in shape and covers approximately 312 square feet (0.007 acre).

Vegetation

Feature Z is dominated by mule fat (FAC), clustered tarweed (FACU), and shortpod mustard (UPL). Non-dominant species within the herb stratum include Jersey cudweed (*Pseudognaphalium luteoalbum* [FAC]), curly dock (FAC), annual rabbitsfoot grass (FACW), and Canadian horseweed (*Conyza canadensis* [FACU]). This feature sample point failed the Dominance Test and did not meet the Prevalence Index criteria. Thus, the feature sample point does not meet the hydrophytic vegetation criterion.

Soils

Feature Z soils are mapped as Myford Sandy Loam, 0-2 percent slopes by the USDA-NRCS (2012b). The soils exhibited a color matrix of 10YR 3/2 in the upper five inches with a clay loam texture and no redoximorphic features. At a depth of five to 12 inches, the soil profile exhibited a color matrix of 10YR 3/3 with a sandy loam texture and no redoximorphic features. This feature sample point lacks hydric soils and thus does not meet the hydric soils criterion.

Hydrology

Common versatile fairy shrimp and ostracod shells were present in this feature during 2012 dry season fairy shrimp surveys (ERS 2012), meeting the Aquatic Invertebrates (B13) primary indicator. Thus, this feature sample point has evidence of hydrology and meets the wetland hydrology criterion.

Summary of Feature Z Characteristics

Feature Z meets one of the three wetland criteria (wetland hydrology).

5.4.30 Feature AA

Feature AA consists of a depression on an inactive or abandoned oil well pad that covers approximately 108 square feet (0.002 acre) and has a maximum depth of approximately 6.5 cm.

Vegetation

Feature AA is dominated by clustered tarweed (FACU) and annual yellow sweetclover (FACU). Non-dominant species include red brome (UPL), star-thistle (UPL), annual rabbitsfoot grass (FACW), and annual fescue (FACU). This feature sample point failed the Dominance Test and did not meet the Prevalence Index criteria. This feature sample point does not have hydrophyticic vegetation and thus does not meet the hydrophytic vegetation criterion.

Soils

Feature AA soils are mapped as Myford Sandy Loam, 0-2 percent slopes by the USDA-NRCS (2012b). The soils exhibited a matrix color of 10YR 3/3 in the upper six inches and contained no redoximorphic features. As such, Feature AA lacks hydric soils and does not meet the hydric soils criterion.

Hydrology

Wetland hydrology indicators were not observed in this feature during delineations, hydrological monitoring, or fairy shrimp surveys (ERS 2012, GLA 2012a, and GLA 2012b); therefore, this feature sample point lacks wetland hydrology and does not meet the hydrology criterion.

Summary of Feature AA Characteristics

Feature AA does not meet any wetland indicators.

5.4.31 Feature BB

Feature BB consists of a depression that covers approximately 84.0 square feet (0.002 acre) within an oil field pipeline array south of two active oil wells.

Vegetation

Feature BB is dominated by soft brome (FACU) and red brome (UPL). Non-dominant species include star-thistle (UPL). The supported palette failed the basic dominance test for hydrophytic vegetation and did not meet the Prevalence Index criteria. Thus, Feature BB does not have hydrophytic vegetation and does not meet the hydrophytic vegetation criterion.

Soils

Feature BB soils are mapped as Myford Sandy Loam, 0-2 percent slopes by the USDA-NRCS (2012b). The soils exhibited a matrix color of 10YR 3/2 in the upper six inches and contained no

redoximorphic features. Feature BB lacks hydric soils and thus does not meet the hydric soils criterion.

Hydrology

Fairy shrimp cysts and ostracod shells were present in this feature during 2012 dry season fairy shrimp surveys (ERS 2012), meeting the Aquatic Invertebrates (B13) primary indicator. Thus, this feature sample point has evidence of hydrology and meets the wetland hydrology criterion.

Summary of Feature BB Characteristics

Feature BB meets one of the three wetland criteria (wetland hydrology).

5.4.32 Feature CC

Feature CC is a pit excavated for the purpose of repairing an oil field pipeline directly adjacent to a well-used oil field operation road. The feature covers approximately 116 square feet (0.003 acre) and has a maximum depth of approximately 15 cm.

Vegetation

Feature CC is mostly bare and is dominated by hyssop loosestrife (FACW). This feature sample point passed the Dominance Test and meets the hydrophytic vegetation criterion.

Soils

Feature CC soils are mapped as Myford Sandy Loam, 0-2 percent slopes by the USDA-NRCS (2012b). The soils exhibited a matrix color of 10YR 3/2 in the upper six inches with a sandy clay loam texture and no redoximorphic features. Thus, the feature sample point lacks hydric soils and does not meet the hydric soils criterion.

Hydrology

Feature CC was inundated for a sufficient duration during the 2011-2012 rain season to support fairy shrimp (GLA 2012b). Common versatile fairy shrimp was detected in this feature during 2011-2012 wet season fairy shrimp surveys (GLA 2012b) and common versatile fairy shrimp and ostracod shells were present in this feature during 2012 dry season fairy shrimp surveys (ERS 2012), meeting the Aquatic Invertebrates (B13) primary indicator. Additionally, this feature sample point passes the FAC-Neutral Test (D5), a secondary indicator. Thus, this feature sample point has evidence of hydrology and meets the wetland hydrology criterion.

Summary of Feature CC Characteristics

Feature CC meets two of the three wetland criteria (hydrophytic vegetation and wetland hydrology).

5.4.33 Feature DD

Feature DD consists of a depression within an area of stockpiled concrete adjacent to a dirt road that covers approximately 131 square feet (0.003 acre) and has a maximum depth of approximately 4.5 cm.

Vegetation

Feature DD is dominated by clustered tarweed (FACU). Menzies' goldenbush (UPL) is also present but is not a dominant species. This feature sample point failed the Dominance Test and did not meet the Prevalence Index criteria. Thus, this feature sample point does not meet the hydrophytic vegetation criterion.

Soils

Feature DD soils are mapped as Myford Sandy Loam, 0-2 percent slopes by the USDA-NRCS (2012b). The soils exhibited a matrix color of 7.5YR 3/3 in the upper six inches with no redoximorphic features. Feature DD lacks hydric soils and thus does not meet the hydric soils criterion.

Hydrology

Common versatile fairy shrimp, ostracod shells, and cladoceran ephippia were present in this feature during 2012 dry season fairy shrimp surveys (ERS 2012), meeting the Aquatic Invertebrates (B13) primary indicator. Thus, this feature sample point has evidence of hydrology and meets the wetland hydrology criterion.

Summary of Feature DD Characteristics

Feature DD meets one of the three wetland criteria (wetland hydrology).

5.4.34 Feature EE

Feature EE consists of a depression on an inactive or abandoned oil well pad that ponds water, covers approximately 139 square feet (0.003 acre), and has a depth of approximately 3-6 cm.

Vegetation

Feature EE is dominated by native clustered tarweed (FACU) and non-native annual rabbitsfoot grass (FACW). Non-dominant species present within the feature include star-thistle (UPL), curly dock (FAC), and Menzies' goldenbush (UPL). This feature sample point failed the Dominance Test and did not meet the Prevalence Index criteria. Therefore, this feature sample point does not meet the hydrophytic vegetation criterion.

Soils

Feature EE soils are mapped as Myford Sandy Loam, 9-30 percent slopes, eroded by the USDA-NRCS (2012b). The feature occurs in a well pad supporting highly compacted soils and asphalt. The soils were not evaluated for hydric conditions given the developed nature of the feature and the fact that portions of the feature are comprised of asphalt. Therefore, it is assumed that this feature sample point lacks hydric soils and does not meet the hydric soils criterion.

Hydrology

Common versatile fairy shrimp were present in this feature during 2012 dry season fairy shrimp surveys (ERS 2012), meeting the Aquatic Invertebrates (B13) primary indicator. Thus, this feature sample point has evidence of hydrology and meets the wetland hydrology criterion.

Summary of Feature EE Characteristics

Feature EE meets one of the three wetland criteria (wetland hydrology).

5.4.35 Feature FF

Feature FF consists of a depression on an inactive or abandoned oil well pad that covers approximately 223 square feet (0.005 acre) and adjacent to an oil field pipeline. The feature overlays an abandoned oil well and it is believed that the depression formed as the soils above the remediated well settled following remediation.

Vegetation

Feature FF is dominated by non-native star-thistle (UPL) and native clustered tarweed (FACU). Non-dominant species present within the feature include red brome (UPL), fivehorn smotherweed (*Bassia hyssopifolia* [FAC]), prickly Russian thistle (*Salsola tragus* [FACU]), shortpod mustard (UPL), and Menzies' goldenbush (UPL). This feature sample point failed the Dominance Test and did not meet the Prevalence Index criteria. Thus, this feature sample point does not meet the hydrophytic vegetation criterion.

Soils

Feature FF soils are mapped as Myford Sandy Loam, 0-2 percent slopes by the USDA-NRCS (2012b). The soils exhibited a matrix color of 10YR 3/3 in the upper six inches with no redoximorphic features. Thus, Feature FF does not have hydric soils and does not meet the hydric soils criterion.

Hydrology

Common versatile fairy shrimp were present in this feature during 2012 dry season fairy shrimp surveys (ERS 2012), meeting the Aquatic Invertebrates (B13) primary indicator. Thus, this feature sample point has evidence of hydrology and meets the wetland hydrology criterion.

Summary of Feature FF Characteristics

Feature FF meets one of the three wetland criteria (wetland hydrology).

5.4.36 Feature GG

Feature GG is within an active oil well site and consists of a series of depressions and road ruts that occurs at a low point within a major well-used access road on site. Prior to installation of the well the area was already part of an existing road. The feature covers approximately 120 square feet (0.003 acre) and has a depth of approximately 7-8 cm.

Vegetation

The feature is mostly unvegetated with limited quantities of upland grasses and forbs including shortpod mustard (UPL) and red brome (UPL). This feature sample point failed the Dominance Test and did not meet the Prevalence Index criteria. Thus, feature GG does not meet the hydrophytic vegetation criterion.

Soils

Feature GG soils are mapped as Myford Sandy Loam, 9-30 percent slopes, eroded by the USDA-NRCS (2012b). Feature GG occurs on a major site access road and is highly compacted due to numerous vehicle trips. The soils exhibited a matrix color of 10YR 3/2 in the upper six inches with no redoximorphic features. Feature GG does not exhibit hydric soils and does not meet the hydric soils criterion.

Hydrology

During 2010-2011 wet season fairy shrimp surveys and during the 2012-2013 rain season, Feature GG was inundated for at least 14 days (GLA 2011a), meeting the Surface Water (A1) primary indicator. Additionally, Feature GG was inundated for a sufficient duration during the 2011-2012 rain season to support fairy shrimp (GLA 2012b). Common versatile fairy shrimp was detected in this feature during 2011-2012 wet season fairy shrimp surveys (GLA 2012b) and during 2012 dry season fairy shrimp surveys (ERS 2012), meeting the Aquatic Invertebrates (B13) primary indicator. Thus, this feature sample point has evidence of hydrology and meets the wetland hydrology criterion.

Summary of Feature GG Characteristics

Feature GG meets one of the three wetland criteria (wetland hydrology).

5.4.37 Feature HH

Feature HH is a depression adjacent to an inactive or abandoned oil well covering approximately 318 square feet (0.007 acre) with a maximum depth of approximately 8 cm.

Vegetation

Feature HH is dominated by native clustered tarweed (FACU). Non-dominant species present within the feature include mule fat (FAC), willow baccharis (UPL), salt heliotrope (FACU) and annual yellow sweetclover (FACU). This feature sample point failed the Dominance Test and did not meet the Prevalence Index criteria. Thus, Feature HH does not meet the hydrophytic vegetation criterion.

Soils

Feature HH soils are mapped as Myford Sandy Loam, 9-30 percent slopes, eroded by the USDA-NRCS (2012b). The soils exhibited a matrix color of 10YR 3/3 in the upper six inches with no redoximorphic features. Thus, Feature HH lacks hydric soils and does not meet the hydric soils criterion.

Hydrology

Feature HH was inundated for a sufficient duration during the 2011-2012 rain season to support fairy shrimp (GLA 2012b). Common versatile fairy shrimp was detected in this feature during 2011-2012 wet season fairy shrimp surveys (GLA 2012b) and during 2012 dry season fairy shrimp surveys (ERS 2012), meeting the Aquatic Invertebrates (B13) primary indicator. Thus, this feature sample point has evidence of hydrology and meets the wetland hydrology criterion.

Summary of Feature HH Characteristics

Feature HH meets one of the three wetland criteria (wetland hydrology).

5.4.38 Feature II

Feature II was likely created by an anthropogenic bulldozer scrape adjacent to an inactive or abandoned oil well pad. The feature covers approximately 103 square feet (0.002 acre) with a depth greater than 3 cm.

Vegetation

Feature II is dominated by native salt heliotrope (FACU). Non-dominant species include clustered tarweed (FACU), hyssop loosestrife (FACW) and annual rabbitsfoot grass (FACW). This feature sample point failed the Dominance Test and did not meet the Prevalence Index criteria. Thus, Feature II lacks hydrophytic vegetation and does not meet the hydrophytic vegetation criterion.

Soils

Feature II soils are mapped as Myford Sandy Loam, 9-30 percent slopes, eroded by the USDA-NRCS (2012b). The soils exhibited a matrix color of 10YR 4/2 in the upper four inches with a well-drained loamy sand texture. Redoximorphic features were absent. Refusal occurred at a depth of four inches. Thus, Feature II lacks hydric soils and does not meet the hydric soils criterion.

Hydrology

Fairy shrimp cysts and ostracod shells were present in this feature during 2012 dry season fairy shrimp surveys (ERS 2012), meeting the Aquatic Invertebrates (B13) primary indicator. Thus, this feature sample point has evidence of hydrology and meets the wetland hydrology criterion.

Summary of Feature II Characteristics

Feature II meets one of the three wetland criteria (wetland hydrology).

5.4.39 Feature JJ

Feature JJ consists of a roadside depression adjacent to an oil field pipeline along a well-used oil field operation road along the western boundary of the site. The feature covers approximately 210 square feet (0.005 acre).

Vegetation

Feature JJ supports one dominant species: non-native star-thistle (UPL). Additional occurrences include Cuman ragweed (FACU), clustered tarweed (FACU]), salt heliotrope (FACU), and California brittlebush (*Encelia californica* [UPL]). This feature sample point failed the Dominance Test and did not meet the Prevalence Index criteria. Thus, Feature JJ does not meet the hydrophytic vegetation criterion.

Soils

Feature JJ soils are mapped as Myford Sandy Loam, 0-2 percent slopes by the USDA-NRCS (2012b). The soils exhibited a matrix color of 10YR 4/2 in the upper four inches with no redoximorphic features and a well-drained loamy sand texture. Refusal occurred at a depth of four inches. Thus, Feature JJ lacks hydric soils and does not meet the hydric soils criterion.

Hydrology

Wetland hydrology indicators were not observed in this feature during delineations, hydrological monitoring, or fairy shrimp surveys (ERS 2012, GLA 2012a, and GLA 2012b); therefore, this feature sample point lacks wetland hydrology and does not meet the hydrology criterion.

Summary of Feature JJ Characteristics

Feature JJ does not meet any wetland indicators.

5.4.40 Feature KK

Feature KK occupies an area of a former oil field road directly north of a well-used oil field operation road. The feature covers approximately 745 square feet (0.017 acre).

Vegetation

Feature KK is dominated by native pale spikerush (*Eleocharis palustris* [OBL]) and shortpod mustard (UPL). Non-dominant species present within the feature include soft brome (FACU), curly dock (FAC), annual rabbitsfoot grass (FACW), and star-thistle (UPL). Non-dominant species include clustered tarweed (FACU), Cuman ragweed (FACU), salt heliotrope (FACU), and western goldentop (FACW). This feature sample point failed the Dominance Test and did not meet the Prevalence Index criteria. Thus, Feature KK does not meet the hydrophytic vegetation criterion.

Soils

Feature KK soils are mapped as Myford Sandy Loam, 0-2 percent slopes by the USDA-NRCS (2012b). The soils exhibited a matrix color of 10 YR 3/2 in the upper six inches with a clay loam texture. The profile exhibited 20 percent redoximorphic features in the upper four inches with a color of 7.5YR 3/4, meeting the indicator Redox Depression (F8). As such, Feature KK exhibits hydric soils and meets the hydric soils criterion.

Hydrology

Common versatile fairy shrimp and ostracod shells were present in this feature during 2012 dry season fairy shrimp surveys (ERS 2012), meeting the Aquatic Invertebrates (B13) primary indicator. Thus, this feature sample point has evidence of hydrology and meets the wetland hydrology criterion.

Summary of Feature KK Characteristics

Feature KK meets two of the three wetland criteria (hydric soils and wetland hydrology).

5.4.41 Feature LL

Feature LL consists of a depression that appears to be from a bulldozer scrape covering approximately 26.2 square feet (0.001 acre) with a maximum depth of approximately 4 cm.

Vegetation

Feature LL is dominated by soft brome (FACU) and prairie plantain (*Plantago elongata* [FACW]). Non-dominant species within the feature include red brome (UPL), curly dock (FAC), clustered tarweed (FACU), saltgrass (FAC) and Menzies' goldenbush (UPL). This feature sample point failed the Dominance Test and did not meet the Prevalence Index criteria. Thus, Feature LL does not meet the hydrophytic vegetation criterion.

Soils

Feature LL soils are mapped as Myford Sandy Loam, 2-9 percent slopes by the USDA-NRCS (2012b). The soils exhibited a matrix color of 10YR 3/2 in the upper four inches with no redoximorphic features and a sandy clay loam texture. Refusal occurred at a depth of four inches. Thus, Feature LL lacks hydric soils and does not meet the hydric soils criterion.

Hydrology

Common versatile fairy shrimp were present in this feature during 2012 dry season fairy shrimp surveys (ERS 2012), meeting the Aquatic Invertebrates (B13) primary indicator. Thus, this feature sample point has evidence of hydrology and meets the wetland hydrology criterion.

Summary of Feature LL Characteristics

Feature LL meets one of the three wetland criteria (wetland hydrology).

5.4.42 Feature MM

Feature MM consists of a depression adjacent to an oil field pipeline within a former oil field road that covers approximately 141 square feet (0.003 acre).

Vegetation

Feature MM is dominated by annual rabbitsfoot grass (FACW) and common brassbuttons (OBL). Non-dominant species include soft brome (FACU), curly dock (FAC), clustered tarweed (FACU), pale spikerush (OBL), annual yellow sweetclover (FACU), and annual fescue (FACU). This feature sample point passed the Dominance Test and meets the hydrophytic vegetation criterion.

Soils

Feature MM soils are mapped as Myford Sandy Loam, 2-9 percent slopes by the USDA-NRCS (2012b). The soils exhibited a matrix color of 10YR 3/2 in the upper five inches with no redoximorphic features and a sandy clay loam texture. Thus, Feature MM lacks hydric soils and does not meet the hydric soils criterion.

Hydrology

Feature MM was inundated for a sufficient duration during the 1999-2000 rain season to support fairy shrimp (GLA 2000). Common versatile fairy shrimp was detected in this feature during 1999-2000 wet season fairy shrimp surveys (GLA 2000) and common versatile fairy shrimp and ostracod shells were present in this feature during 2012 dry season fairy shrimp surveys (ERS 2012), meeting the Aquatic Invertebrates (B13) primary indicator. Additionally, this feature sample point passes the FAC-Neutral Test (D5), a secondary indicator. Thus, this feature sample point has evidence of hydrology and meets the wetland hydrology criterion.

Summary of Feature MM Characteristics

Feature MM meets two of the three wetland criteria (hydrophytic vegetation and wetland hydrology).

5.4.43 Feature NN

Feature NN consists of an almost imperceptible depression covering approximately 132 square feet (0.003 acre) with a maximum depth of approximately 7 cm.

Vegetation

Feature NN is dominated by curly dock (FAC) and hare barley (*Hordeum murinum* ssp. *leporinum* [FACU]). Non-dominant species include soft brome (FACU), ripgut brome (*Bromus diandrus* [UPL]), and longbeak stork's bill (FACU). This feature sample point failed the Dominance Test and did not meet the Prevalence Index criteria. Thus, Feature NN does not meet the hydrophytic vegetation criterion.

Soils

Feature NN soils are mapped as Myford Sandy Loam, 2-9 percent slopes by the USDA-NRCS (2012b). The soils exhibited a matrix color of 10YR 3/2 in the upper five inches with no redoximorphic features and a sandy loam texture. Thus, Feature NN lacks hydric soils and does not meet the hydric soils criterion.

Hydrology

Wetland hydrology indicators were not observed in this feature during delineations, hydrological monitoring, or fairy shrimp surveys (ERS 2012, GLA 2012a, and GLA 2012b); therefore, this feature sample point lacks wetland hydrology and does not meet the hydrology criterion.

Summary of Feature NN Characteristics

Feature NN does not meet any wetland indicators.

5.4.44 Feature OO

Feature OO consists of a depression within an oil field access road covering approximately 41.2 square feet (0.001 acre) with a maximum depth of approximately 6 cm.

Vegetation

While Feature OO is limited in size, it exhibits a diversity of species; however, salt sandspurry (OBL) was the only dominant species observed. Associated species include longbeak stork's bill (FACU), soft brome (FACU), annual fescue (FACU), common brassbuttons (OBL), clustered tarweed (FACU), shortpod mustard (UPL), and red brome (UPL). This feature sample point passed the Dominance Test and meets the hydrophytic vegetation criterion.

Soils

Feature OO soils are mapped as Myford Sandy Loam, 9-30 percent slopes, eroded by the USDA-NRCS (2012b). The soils exhibited a matrix color of 10YR 3/2 in the upper six inches with no redoximorphic features and a sandy loam texture. Thus, Feature OO does not have hydric soils and does not meet the hydric soils criterion.

Hydrology

Common versatile fairy shrimp were present in this feature during 2012 dry season fairy shrimp surveys (ERS 2012), meeting the Aquatic Invertebrates (B13) primary indicator. Additionally, this feature sample point passes the FAC-Neutral Test (D5), a secondary indicator. Thus, this feature sample point has evidence of hydrology and meets the wetland hydrology criterion.

Summary of Feature OO Characteristics

Feature OO meets two of the three wetland criteria (hydrophytic vegetation and wetland hydrology).

5.4.45 Feature PP

Feature PP consists of a depression that covers approximately 47.1 square feet (0.001 acre) adjacent to a well-used paved oil field operation road.

Vegetation

Feature PP is dominated by annual rabbitsfoot grass (FACW). Non-dominant species present within the feature include common brassbuttons (OBL), curly dock (FAC), and clustered tarweed (FACU). This feature sample point passed the Dominance Test and meets the hydrophytic vegetation criterion.

Soils

Feature PP soils are mapped as Myford Sandy Loam, 2-9 percent slopes by the USDA-NRCS (2012b). The soils exhibited a matrix color of 10YR 3/2 with no redoximorphic features in the upper three inches. The profile exhibited redoximorphic features from three to four inches with a color matrix of 10YR 3/3. While the soil exhibits redox, it does not meet the minimum thickness for Redox Depression (F8) and is therefore not considered hydric. Thus, Feature PP does not meet the hydric soils criterion.

Hydrology

Feature PP was inundated for a sufficient duration during the 1999-2000 rain season to support fairy shrimp (GLA 2000). Common versatile fairy shrimp was detected in this feature during 1999-2000 wet season fairy shrimp surveys (GLA 2000) and during 2012 dry season fairy shrimp surveys (ERS 2012), meeting the Aquatic Invertebrates (B13) primary indicator. Additionally, this feature sample point passes the FAC-Neutral Test (D5), a secondary indicator. Thus, this feature sample point has evidence of hydrology and meets the wetland hydrology criterion.

Summary of Feature PP Characteristics

Feature PP meets two of the three wetland criteria (hydrophytic vegetation and wetland hydrology).

5.4.46 Feature QQ

Feature QQ consists of a depression that covers approximately 141 square feet (0.003 acre) adjacent to a dirt oil field operation road within the southeastern portion of the site.

Vegetation

Feature QQ is dominated by Menzies' goldenbush (UPL), shortpod mustard (UPL), longbeak stork's bill (FAC), and soft brome (FACU). Non-dominant species within Feature QQ include annual fescue (FACU), curly dock (FAC), redstem stork's bill (*Erodium cicutarium* [UPL]), and Italian thistle (UPL). This feature sample point failed the Dominance Test and did not meet the Prevalence Index criteria. Thus, Feature QQ does not meet the hydrophytic vegetation criterion.

Soils

Feature QQ soils are mapped as Myford Sandy Loam, 9-30 percent slopes, eroded by the USDA-NRCS (2012b). The soils exhibited a color matrix of 2.5YR 3/3 in the upper twelve inches with

no redoximorphic features, and a sandy loam texture. Thus, this feature sample point lacks hydric soils and does not meet the hydric soils criterion.

Hydrology

Wetland hydrology indicators were not observed in this feature during delineations, hydrological monitoring, or fairy shrimp surveys (GLA 2011b, GLA 2012a, GLA 2012b, and ERS 2012); therefore, this feature sample point lacks wetland hydrology and does not meet the hydrology criterion.

Summary of Feature QQ Characteristics

Feature QQ does not meet any wetland indicators.

5.4.47 Feature RR

Feature RR consists of a depression that covers approximately 22.1 square feet (0.001 acre) and consists of a pair of tire ruts.

Vegetation

Feature RR is dominated by clustered tarweed (FACU) and soft brome (FACU) and annual fescue (FACU). Non-dominant species within the feature include longbeak stork's bill (FACU), curly dock (FAC), star-thistle (UPL), and redstem stork's bill (UPL). This feature sample point failed the Dominance Test and did not meet the Prevalence Index criteria. Thus, Feature RR does not meet the hydrophytic vegetation criterion.

Soils

Feature RR soils are mapped as Myford Sandy Loam, 9-30 percent slopes, eroded by the USDA-NRCS (2012b). The soils exhibited a color matrix of 2.5YR 3/3 in the upper six inches with no redoximorphic features and a sandy loam texture. Thus, this feature lacks hydric soils and does not meet the hydric soils criterion.

Hydrology

Wetland hydrology indicators were not observed in this feature during delineations or hydrological monitoring (GLA 2012a and GLA 2012b); therefore, this feature sample point lacks wetland hydrology and does not meet the hydrology criterion.

Summary of Feature RR Characteristics

Feature RR does not meet any wetland indicators.

5.4.48 Feature SS

Feature SS consists of a depression adjacent to an inactive or abandoned oil well that covers approximately 86.0 square feet (0.002 acre) within the southeastern portion of the site.

Vegetation

Feature SS is dominated by native deerweed (*Acmispon glaber* [UPL]) and annual fescue (FACU). Non-dominant species within the feature include Menzies' goldenbush (UPL), telegraphweed (UPL), star-thistle (UPL), curly dock (FAC). This feature sample point failed the Dominance Test and did not meet the Prevalence Index criteria. Thus, Feature SS does not meet the hydrophytic vegetation criterion.

Soils

Feature SS soils are mapped as Myford Sandy Loam, 2-9 percent slopes by the USDA-NRCS (2012b). The soils exhibited a color matrix of 2.5YR 3/3 in the upper six inches with no redoximorphic features and a sandy loam texture. Thus, this feature sample point lacks hydric soils and does not meet the hydric soils criterion.

Hydrology

Wetland hydrology indicators were not observed in this feature during delineations or hydrological monitoring (GLA 2012a and GLA 2012b); therefore, this feature sample point lacks wetland hydrology and does not meet the hydrology criterion.

Summary of Feature SS Characteristics

Feature SS does not meet any wetland indicators.

5.4.49 Feature TT

Feature TT consists of a depression that covers approximately 40.3 square feet (0.001 acre) within the southeaster portion of the site.

Vegetation

Feature TT is dominated by soft brome (FACU), Menzies' goldenbush (UPL), and annual yellow sweetclover (FACU). Non-dominant species present within the feature include curly dock (FAC)

and longbeak stork's bill (FACU). This feature sample point failed the Dominance Test and did not meet the Prevalence Index criteria. Thus, Feature TT does not meet the hydrophytic vegetation criterion.

Soils

Feature TT soils are mapped as Myford Sandy Loam, 2-9 percent slopes by the USDA-NRCS (2012b). The soils exhibited a color matrix of 2.5YR 3/3 in the upper six inches with no redoximorphic features and a sandy loam texture.

Hydrology

Wetland hydrology indicators were not observed in this feature during delineations or hydrological monitoring (GLA 2012a and GLA 2012b); therefore, this feature sample point lacks wetland hydrology and does not meet the hydrology criterion.

Summary of Feature TT Characteristics

Feature TT does not meet any wetland indicators.

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6.0 OILFIELD ABANDONMENT AND SOIL REMEDIATION EXEMPTION

Activities on Banning Ranch associated with oilfield abandonment and soil remediation are exempt from regulation under the California Coastal Act (California Coastal Zone Conservation Commission 1973). Exempt activities are defined as oil production, operation, maintenance, abandonment, and soil remediation. Fuscoe Engineering, Inc. provided Global Information Systems (GIS) shape files (i.e. graphic layer) depicting the limits of the exemption area (Fuscoe 2012). Based on a review of GIS data, forty-two seasonal features were determined to be wholly (n=33) or partially (n=9) located within the exemption area designated for oil field operations and maintenance (*Figure 5*). Seven seasonal features (A, K, L, W, BB, II, and NN) were outside of the exemption area. Seasonal features that are 100 percent situated within the exemption area were not considered subject to the regulatory authority of the California Coastal Commission (CCC) regardless of the wetland assessment results. If, however, the majority (i.e. greater than 50 percent) of a seasonal features extends outside of the exemption area and is positive for wetland criterion, then it was determined that the feature is under the CCC's regulatory authority.

Table 7. Percent of Seasonal Features Affected by Oilfield Abandonment and Soil Remediation and Determination of Exemption from the California Coastal Act

Seasonal Feature	Percent outside of OASR	CCC Exempt	Seasonal Feature	Percent within OASR	CCC Exempt	Seasonal Feature	Percent within OASR	CCC Exempt
VP1	93	No	O	100	Yes	FF	100	Yes
VP2	83	No	P	100	Yes	GG	100	Yes
VP3	59	No	Q	100	Yes	HH	100	Yes
A	0	No	R	100	Yes	II	0	No
B	100	Yes	S	100	Yes	JJ	100	Yes
C	100	Yes	T	100	Yes	KK	92	No
D	100	Yes	U	100	Yes	LL	66	No
E	100	Yes	V	100	Yes	MM	52	No
F	100	Yes	W	0	No	NN	0	No
G	100	Yes	X	100	Yes	OO	100	Yes
H	3	Yes	Y	100	Yes	PP	100	Yes
I	26	Yes	Z	100	Yes	QQ	100	Yes

Table 7. Percent of Seasonal Features Affected by Oilfield Abandonment and Soil Remediation and Determination of Exemption from the California Coastal Act

J	62	No	AA	100	Yes	RR	100	Yes
K	0	No	BB	0	No	SS	100	Yes
L	0	No	CC	100	Yes	TT	100	Yes
M	100	Yes	DD	100	Yes			
N	100	Yes	EE	100	Yes			

Table 7. Summary of Seasonal Features Affected by Oilfield Abandonment and Soil Remediation

Seasonal Feature	Percent Impacted by OASR	Description of Seasonal Feature and Oilfield Abandonment and Soil Remediation Impact
VP1	-[1]	Impacted by pipeline corridor.
VP2	-[1]	Impacted by pipeline corridor.
VP3	-[1]	Feature is located immediately east of Feature VP1 (separated by a dirt road) and is likely the result of an anthropogenic bulldozer scrape situated near and existing oil field pipeline. Impacted by pipeline corridor.
A	-	Appears to be a natural feature.
B	✓	Feature is an area of stockpiled remediated soil adjacent to two inactive or abandoned oil wells. Impacted by recognized environmental conditions and potential environmental concerns and soil remediation.
C	✓	Feature was created to gain access to a broken oil field pipeline, which traverses the feature. Impacted by recognized environmental conditions and potential environmental concerns, historical abandonment, and soil remediation.
D	✓	Feature is adjacent to an oil field pipeline. Impacted by historical abandonment.
E	✓	Feature is an excavated oil sump created to capture potential oil spills from existing and historic wells. Feature is directly north of an inactive or abandoned oil well and has been documented to contain areas of contaminated soils that will require future remediation. Impacted by oil sump, historical abandonment, and soil remediation.
F	✓	Feature is likely an anthropogenic depression created by a combination of excavation and placement of a berm. Impacted by historical abandonment and soil remediation.
G	✓	Feature is an oil field sump created to contain oil spills and is crossed by a number of oil field pipelines. Impacted by pipeline corridor and historical abandonment.
H	✓	Feature is an area of disturbed ground within the oil field directly adjacent to well-used oil field operation roads. Impacted by historical abandonment.
I	✓	Feature is likely an anthropogenic depression created by a combination of excavation and berming. Impacted by historical abandonment.

Table 7. Summary of Seasonal Features Affected by Oilfield Abandonment and Soil Remediation

Seasonal Feature	Percent Impacted by OASR	Description of Seasonal Feature and Oilfield Abandonment and Soil Remediation Impact
J	-[1]	Feature is likely anthropogenic created. Impacted by historical abandonment.
K	-	Feature is a depression likely created by anthropogenic excavation of material to create adjacent berms.
L	-	Feature is likely an anthropogenic excavation as part of oil field operations.
M	✓	Feature occurs in the oil field pipe and material storage yard. Impacted by recognized environmental conditions and potential environmental concerns and historical abandonment.
N	✓	Feature is located in the gravel oil field pipe and material storage yard surrounded by well-used oil field operation roads. Impacted by recognized environmental conditions and potential environmental concerns and historical abandonment.
O	✓	Feature is a depression that occurs within a gravel parking and equipment storage area surrounded by well-used oil field operation roads. Impacted by recognized environmental conditions and potential environmental concerns and historical abandonment.
P	✓	Feature is a depression within a soil remediation area near the 17th Street entry to the site. Impacted by recognized environmental conditions and potential environmental concerns and historical abandonment.
Q	✓	Feature is a depression that straddles the earthen road shoulder of a well-used access road from the 17th Street gate. Impacted by recognized historical abandonment.
R	✓	Feature is a roadside depression, one of a series of depressions occupying the paved parking area, well-used access road, and adjacent earthen shoulder near the 17th Street gate. Impacted by recognized historical abandonment.
S	✓	Feature is one of a series of depressions along the road shoulder of the main well-used access road near the 17th Street gate. Impacted by recognized historical abandonment.
T	✓	Feature is one of a series of depressions along the road shoulder of the main well-used access road near the 17th Street gate. Impacted by recognized environmental conditions and potential environmental concerns and historical abandonment.
U	✓	Feature is one of a series of depressions along the road shoulder of the main well-used access road near the 17th Street gate. Impacted by recognized environmental conditions and potential environmental concerns and historical abandonment.
V	✓	Feature is a depression on an inactive or abandoned oil well pad. Impacted by historical abandonment.
W	-	Feature is within an annual grassland depression.
X	✓	Feature is one of a series of depressions and road ruts within a well-used access road. Impacted by historical abandonment.
Y	✓	Feature consists of a depression that lies fully within a site access road well-used by vehicular traffic. Impacted by historical abandonment.
Z	✓	Feature is likely an anthropogenic excavated trench constructed to contain oil spills from oil field pipelines that run over the trench. Impacted by pipeline corridor and historical abandonment.
AA	✓	Feature is a depression on an inactive or abandoned oil well pad. Impacted by soil remediation.
BB	-	Feature is a depression within an oil field pipeline array south of two active oil wells.
CC	✓	Feature is a pit excavated for the purpose of repairing an oil field pipeline directly adjacent to a well-used oil field operation road.

Table 7. Summary of Seasonal Features Affected by Oilfield Abandonment and Soil Remediation

Seasonal Feature	Percent Impacted by OASR	Description of Seasonal Feature and Oilfield Abandonment and Soil Remediation Impact
		Impacted by recognized environmental conditions and potential environmental concerns, historical abandonment, and soil remediation.
DD	✓	Impacted by recognized environmental conditions and potential environmental concerns, historical abandonment, and soil remediation.
EE	✓	Impacted by historical abandonment and soil remediation.
FF	✓	Feature is a depression on an inactive or abandoned oil well pad adjacent to an oil field pipeline. Impacted by historical abandonment and soil remediation.
GG	✓	Feature is within an active oil well site and consists of a series of depression and road ruts within a major well-used access road. Impacted by historical abandonment and soil remediation.
HH	✓	Feature is a depression adjacent to an inactive or abandoned oil well. Impacted by historical abandonment.
II	-	Feature was likely created by an anthropogenic bulldozer scrape adjacent to an inactive or abandoned oil well pad.
JJ	✓	Feature is a roadside depression adjacent to an oil field pipeline along a well-used oil field operation road. Impacted by pipeline corridor and historical abandonment.
KK	-[1]	Feature occupies an area of a former oil field road directly north of a well-used oil field operation road. Impacted by pipeline corridor and historical abandonment.
LL	-[1]	Impacted by historical abandonment.
MM	-[1]	Feature is a depression adjacent to an oil field pipeline within a former oil field road. Impacted by pipeline corridor and historical abandonment.
NN	-	
OO	✓	Feature is depression within an oil field access road. Impacted by recognized environmental conditions and potential environmental concerns.
PP	✓	Feature is a depression adjacent to a well-used oil field operation road. Impacted by historical abandonment.
QQ	✓	Feature is a depression adjacent to a dirt oil field operation road. Impacted by soil remediation.
RR	✓	Feature is a pair of tire ruts. Impacted by historical abandonment and soil remediation.
SS	✓	Feature is a depression adjacent to an inactive or abandoned oil well. Impacted by historical abandonment and soil remediation.
TT	✓	Feature is a depression. Impacted by soil remediation.

Notes:

[1] – Oilfield Abandonment and Soil Remediation impacts are greater than zero but less than or equal to 50 percent, therefore feature is not determined to be exempt

Project Site Boundary

Joint Ownership Oil Facilities Areas / Consolidation Sites – Existing and Continuing Oil Operations

Biological Survey Area

Seasonal Feature Identification

Oilfield Abandonment and Soil Remediation Area

V X Y Z U S T R P AA VP1 Q N O M VP3 J L H K BB D VP2 I G E CC F C HH EE DD B FF II GG JJ A KK QQ RR W SS LL TT NN MM OO PP

N

Feet

0 400 800

1 inch = 500 feet

SOURCE: 2011 Aerial provided by Fusco Engineering; Oil Facilities provided by Fuscoe Engineering; Biological Survey Areas - Jurisdictional Determination/Delineation of 49 Ponding Features at the Newport Banning Ranch Property, Orange County, California. GLA 2012

Figure 5

Oilfield Abandonment and Soil Remediation

DUDEK

NEWPORT BANNING RANCH

Jurisdictional Determination of Seasonal Features

Date: 2/5/2013 - Created by: slucarelli - Last saved by: slucarelli - Path: \\HQTR-DATA1\Gisdata\Projects\j724801\MAPDOC\MAPS\Wetland\Fig5_Oilfield Abandonment and Soil Remediation.mxd

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7.0 JURISDICTIONAL DETERMINATION

Of the 49 seasonal features, 35 of them are greater than 50 percent within oil operation facility areas and/or the oil operation abandonment and remediation footprint (i.e. exemption zone) and, therefore, are not identified as jurisdictional or subject to review under the CCA (*Figure 5*). The remaining 14 seasonal features that are greater than 50 percent outside of the exemption zone are Features VP1, VP2, VP3, A, J, K, L, W, BB, II, KK, LL, MM. These features are all subject to review under the CCA if a wetland criterion was observed. A summary of the jurisdictional determination for all relevant regulatory agencies and seasonal features is presented in *Table 8* and displayed on *Figure 6*. The jurisdictional features are briefly discussed below in decreasing order of the number of wetland criterion present.

Features VP1 and VP2 met three wetland parameters (hydrophytic vegetation, hydric soils and hydrology), thus under joint jurisdiction of USACE and CCC. Additionally, San Diego fairy shrimp was observed within Features VP1 and VP2, which also subjects them to jurisdiction under the Endangered Species Act of 1973 and USFWS jurisdiction. Additionally, Features VP1 and VP2 were identified during wetland delineation surveys conducted by GLA in 2009; whereas the USACE previously accepted jurisdiction over these feature (GLA 2008a).

Features A and MM met two wetland parameters (hydrophytic vegetation and hydrology), while feature KK also met two wetland parameters, but for hydric soils and hydrology. These three features all fall under the jurisdiction of the CCC.

Features K, L, W, BB, II, LL only met one wetland parameter (hydrology), thus they would solely fall under the CCC jurisdiction.

Features VP3 and J met the criteria for one wetland parameter (hydrology). It also contains habitat for the San Diego fairy shrimp; therefore, USACE and USFWS are expected to have jurisdiction over these seasonal features.

Within the oil abandonment and remediation footprint (i.e. CCC exempt), the San Diego fairy shrimp was observed in Features E, G, H, and I and thus subject to jurisdiction under the USACE and USFWS.

Generally, the RWQCB has potential to take jurisdiction over all seasonal features discussed above under the State's Porter-Cologne Water Quality Control Act and Clean Water Act, Section 401, where applicable.

Seasonal Feature NN did not display wetland indicators; therefore, agencies are not expected to take jurisdiction for NN under their applicable regulations.

Table 8. Jurisdictional Determination of Seasonal Features

Seasonal Feature	Regulatory Agency		
	USACE/USFWS	RWQCB	CCC
VP1	✓[1,2]	✓	✓
VP2	✓[1,2]	✓	✓
VP3	✓[1]	✓	✓
A	-	✓	✓
B	-	✓	-
C	-	✓	-
D	-	✓	-
E	✓[1]	✓	-
F	-	✓	-
G	✓[1]	✓	-
H	✓[1]	✓	-
I	✓[1]	✓	-
J	✓[1]	✓	✓
K	-	✓	✓
L	-	✓	✓
M	-	✓	-
N	-	✓	-
O	-	✓	-
P	-	✓	-
Q	-	✓	-
R	-	✓	-
S	-	✓	-
T	-	✓	-
U	-	✓	-
V	-	✓	-
W	-	✓	✓
X	-	✓	-
Y	-	✓	-
Z	-	✓	-
AA	-	✓	-
BB	-	✓	✓
CC	-	✓	-
DD	-	✓	-
EE	-	✓	-
FF	-	✓	-
GG	-	✓	-
HH	-	✓	-
II	-	✓	✓
JJ	-	✓	-
KK	-	✓	✓
LL	-	✓	✓
MM	-	✓	✓
NN	-	✓	✓

Table 8. Jurisdictional Determination of Seasonal Features

Seasonal Feature	Regulatory Agency		
	USACE/USFWS	RWQCB	CCC
OO	-	✓	-
PP	-	✓	-
QQ	-	✓	-
RR	-	✓	-
SS	-	✓	-
TT	-	✓	-

Notes:
[1] – Seasonal feature contains federally endangered San Diego fairy shrimp (*Branchinecta sandiegonensis*)
[2] – USACE previously accepted jurisdiction over seasonal feature in 2009

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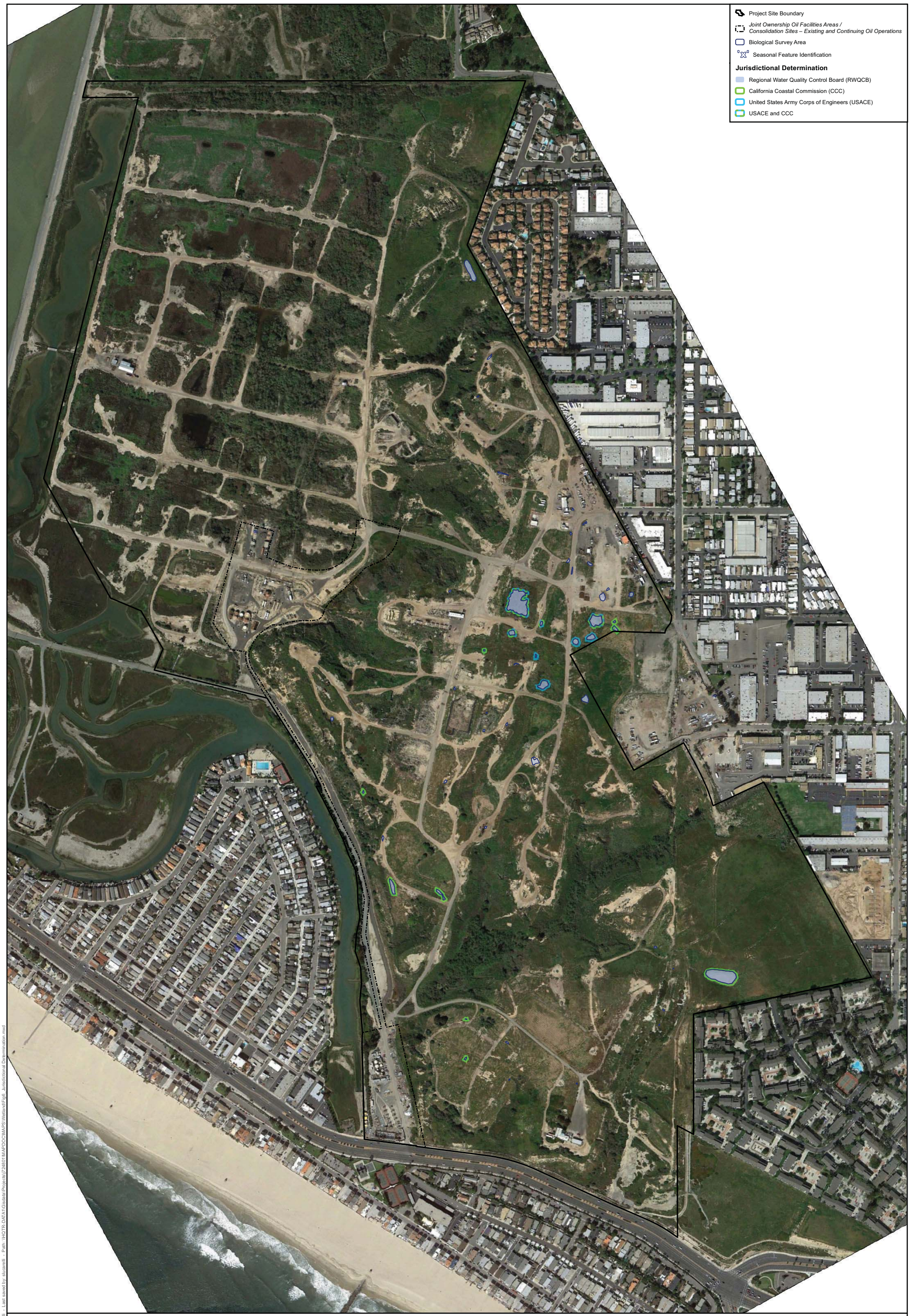

N

Feet
0 435 870

1 inch = 250 feet

SOURCE: 2011 Aerial provided by Fusco Engineering; Features Surveyed - Jurisdictional Determination/Delineation of 49 Ponding Features at the Newport Banning Ranch Property, Orange County, California. GLA 2012

DUDEK

NEWPORT BANNING RANCH

Figure 6

Jurisdictional Determination

Jurisdictional Determination of Seasonal Features

Date: 2/13/2013 - Created by: slucarelli - Last saved by: slucarelli - Path: \\HQTR-DATA1\Gisdata\Projects\7-24801\MAPDOC\MAPS\Wetland\Fig6_Jurisdictional Determination.mxd

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APPENDIX A

Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: VP1

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6344947418 | Long: -117.94372956 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 0-2% slopes | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [X] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes (●)	No ( )		
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?**	**Yes (●) No ( )**
Wetland Hydrology Present?	Yes (●)	No ( )		

Remarks: CCC wetland since at least one wetland criterion was met.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Baccharis salicifolia*	30	Yes	FAC
2.			
3.			
4.			
5.			
Total Cover:	30 %		
Herb Stratum			
1. *Polypogon monspeliensis*	50	Yes	FACW
2. *Lythrum hyssopifolia*	5	No	OBL
3. *Conyza canadensis*	10	No	FACU
4. *Distichlis spicata*	20	Yes	FAC
5. *Eleocharis macrostachya*	10	No	OBL
6. *Hirschfeldia incana*	5	No	UPL
7.			
8.			
Total Cover:	100 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 0 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	50	x 2 =	100
FAC species	50	x 3 =	150
FACU species	10	x 4 =	40
UPL species	5	x 5 =	25
Column Totals:	130 (A)		330 (B)

Prevalence Index = B/A = 2.54

Hydrophytic Vegetation Indicators:

- [X] Dominance Test is >50%
- [X] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: Vegetation data was collected by GLA on 6-9-12 (see handwritten data form).

SOIL

Sampling Point: VP1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	2.5Y 3/2	90	5YR 4/6	10	C	M	clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☒ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): none

Hydric Soil Present? Yes ◉ No ○

Remarks: Soils data collected by GLA on 6-9-12 (see handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated the soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☒ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): 2-6

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ◉ No ○ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: *Surface Water* Based on previous observations - did not pond in 2011/2012 (noted by GLA on 6-9-12 hand written data form).
Aquatic Invertebrates San Diego fairy shrimp was identified in feature during 1999-2000 wet season fairy shrimp survey (Dudek updated data form with shrimp data).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: VP2

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6339931559 | Long: -117.943844657 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 0-2% slopes | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes (●)	No ( )		
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?**	**Yes (●) No ( )**
Wetland Hydrology Present?	Yes (●)	No ( )		

Remarks: CCC wetland since at least one wetland criterion was met.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Baccharis salicifolia*	5	Yes	FAC
2.			
3.			
4.			
5.			
Total Cover:	5 %		
Herb Stratum			
1. *Lythrum hyssopifolium*	30	Yes	OBL
2. *Cotula coronopifolia*	20	Yes	OBL
3. *Deinandra fasciculata*	20	Yes	FACU
4. *Rumex crispus*	8	No	FAC
5. *Heliotropium curassivicum*	2	No	FACU
6.			
7.			
8.			
Total Cover:	80 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 15 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species		x 2 =	0
FAC species	13	x 3 =	39
FACU species	22	x 4 =	88
UPL species		x 5 =	0
Column Totals:	85 (A)		177 (B)

Prevalence Index = B/A = 2.08

Hydrophytic Vegetation Indicators:

- [X] Dominance Test is >50%
- [X] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: Vegetation data collected by GLA on 6-9-12 (see original handwritten data form).

SOIL

Sampling Point: VP2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	2.5Y 3/2	95	10YR 4/4	5	C	M	clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☒ Redox Depressions (F8)
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Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): none

Hydric Soil Present? Yes ◉ No ○

Remarks: Soil data collected by GLA on 6-9-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☒ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): 2

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ◉ No ○ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: *Surface Water Present* Based on previous observations during normal rainfall pattern (recorded by GLA on 6-9-12 handwritten data form).
Aquatic Invertebrates San Diego fairy shrimp was identified in this feature during 1999-2000 and 2010-2011 wet season fairy shrimp surveys (Dudek updated data form with shrimp data).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: VP3

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6341543365 | Long: -117.94325527 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 0-2% slopes | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: CCC wetland since at least one wetland criterion was met.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Bromus madritensis rubens*	35	Yes	UPL
2. *Spergularia salina*	25	Yes	OBL
3. *Ambrosia psilostachya*	15	No	FACU
4. *Rumex crispus*	5	No	FAC
5. *Deinandra fasciculata*	5	No	FACU
6.			
7.			
8.			
Total Cover:	85 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 15 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species		x 2 =	0
FAC species	5	x 3 =	15
FACU species	20	x 4 =	80
UPL species	35	x 5 =	175
Column Totals:	85 (A)		295 (B)

Prevalence Index = B/A = 3.47

Hydrophytic Vegetation Indicators:

- (●) Dominance Test is >50%
- (●) Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Vegetation data collected by GLA (6-9-12 handwritten data form).

SOIL

Sampling Point: VP3

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	2.5Y 3/2	0	none					

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): none

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil data collected by GLA on 6-9-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: * Does not hold water for 14 days even during substantial rains (noted by GLA on 6-9-12 handwritten data form).
Aquatic Invertebrates San Diego fairy shrimp identified in this feature during 2009-2010 wet season fairy shrimp surveys (Dudek updated data form with shrimp data).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: A

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6297050009 | Long: -117.946196287 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 0-2% slopes | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: CCC wetland since at least one wetland criterion was met.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Psilocarphus brevissimus*	40	Yes	FACW
2. *Euthamia occidentalis*	20	Yes	FACW
3. *Polypogon monspeliensis*	10	No	FACW
4. *Rumex crispus*	5	No	FAC
5. *Distichlis spicata*	5	No	FAC
6. *Deinandra fasciculata*	5	No	FACU
7. *Eleocharis macrostachya*	10	No	OBL
8.			
Total Cover:	95 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 5 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	70	x 2 =	140
FAC species	10	x 3 =	30
FACU species	5	x 4 =	20
UPL species		x 5 =	0
Column Totals:	95 (A)		200 (B)

Prevalence Index = B/A = 2.11

Hydrophytic Vegetation Indicators:

- [X] Dominance Test is >50%
- [X] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: Vegetation data collected by GLA on 6-9-12 (see original handwritten data form).

SOIL

Sampling Point: A

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	2.5Y 3/2	100	none					

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): none

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil data collected by GLA on 6-9-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☒ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: *Surface Water Present* During 2007-2008 and 2008-2009 wet season fairy shrimp surveys, this feature was inundated for at least 14 days (noted by GLA on 6-9-12 handwritten data form)
Aquatic Invertebrates Common versatile fairy shrimp detected during 2007-2008, 2008-2009, and 2010-2011 wet season fairy shrimp surveys (Dudek updated data form with shrimp data).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: B

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6318378739 | Long: -117.943360967 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 0-2% slopes | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: CCC wetland since at least one wetland criterion was met.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Heliotropium curassavicum*	20	Yes	FACU
2. *Deinandra fasciculatum*	10	Yes	FACU
3. *Heterotheca grandiflora*	5	No	UPL
4. *Rumex crispus*	2	No	FAC
5. *Stephanomeria virgata*	3	No	UPL
6.			
7.			
8.			
Total Cover:	40 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 60 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	2	x 3 =	6
FACU species	30	x 4 =	120
UPL species	8	x 5 =	40
Column Totals:	40 (A)		166 (B)

Prevalence Index = B/A = 4.15

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50%
- [ ] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Vegetation data collected by GLA on 6-9-12 (see original handwritten data form).

SOIL

Sampling Point: B

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	2.5Y 3/2	100	none				sandy clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil data collected by GLA on 6-9-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: *Surface Water* During 2010-2011 wet season fairy shrimp surveys, this feature was inundated for at least 14 days (Dudek updated data form with inundation data).
Aquatic Invertebrates Versatile fairy shrimp was detected during 2009-2010 and 2010-2011 wet season fairy shrimp surveys (Dudek updated data form with shrimp data).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: C

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6326434548 | Long: -117.94433405 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 0-2% slopes | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: CCC wetland since at least one wetland criterion was met. Appears to be anthropogenic created.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Lythrum hyssopifolia*	40	Yes	OBL
2. *Cotula coronopifolia*	20	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	60 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 40 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = 1.00

Hydrophytic Vegetation Indicators:

- [X] Dominance Test is >50%
- [X] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: Vegetation data collected by GLA on 6-9-12 (see original handwritten data form).

SOIL

Sampling Point: C

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	10YR 3/2	90	7.5YR 3/4	10	C	PL	loam	soil highly laminated with oil...
								...mixed in

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: Soils are highly disturbed and oil base may be creating occluding layer - site lacks wetland hydrology in most years. Soil data collected by GLA on 6-9-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, on terraces (Dudek).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☒ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: *Surface Water Present* Surface ponding < 14 days during most years. Pond in 2012 was < 7 days (data from GLA data form 6-9-12).
Aquatic Invertebrates Common versatile fairy shrimp was detected during 2010-2011 wet season fairy shrimp surveys and common versatile fairy shrimp, ostracod shells, and cladoceran ephippia were present during 2012 dry season fairy shrimp surveys(updated by Dudek).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: D

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): < 2

Subregion (LRR): C - Mediterranean California | Lat: 33.6334716772 | Long: -117.94375849 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 9-30% slopes, eroded | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: CCC wetland since at least one wetland criterion was met.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Cotula coronopifolia*	35	Yes	OBL
2. *Deinandra fasciculata*	40	Yes	FACU
3. *Vulpia myuros*	10	No	FACU
4. *Polypogon monspeliensis*	5	No	FACW
5.			
6.			
7.			
8.			
Total Cover:	90 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum: 10 % | % Cover of Biotic Crust: 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	35	x 1 =	35
FACW species	5	x 2 =	10
FAC species		x 3 =	0
FACU species	50	x 4 =	200
UPL species		x 5 =	0
Column Totals:	90 (A)		245 (B)

Prevalence Index = B/A = 2.72

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50%
- [x] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Vegetation data collected by GLA on 6-9-12 (see original handwritten data form).

SOIL

Sampling Point: D

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-3	10YR 3/3	100	none				clay loam	
3-5								Disturbed soil with oil matrix...
								...Refusal at 5"

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil data collected by GLA on 6-9-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: No ponding or saturation in 2011-2012 (noted on handwritten GLA data form 6-9-12).
Aquatic Invertebrates Common versatile fairy shrimp was detected during 1999-2000 wet season fairy shrimp surveys and 2012 dry season fairy shrimp surveys (Dudek updated data form with shrimp data).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: E

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6331241823 | Long: -117.943200076 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 9-30% slopes, eroded | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: CCC wetland since at least one wetland criterion was met.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Baccharis salicifolia*	70	Yes	FAC
2.			
3.			
4.			
5.			
Total Cover:	70 %		
Herb Stratum			
1. *Hirschfeldia incana*	20	Yes	UPL
2. *Heliotropium curassavicum*	5	No	FACU
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	25 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 5 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	70	x 3 =	210
FACU species	5	x 4 =	20
UPL species	20	x 5 =	100
Column Totals:	95 (A)		330 (B)

Prevalence Index = B/A = 3.47

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50%
- [ ] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Vegetation data collected by GLA on 6-9-12 (see original handwritten data form).

SOIL

Sampling Point: E

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	10YR 3/2	100	none				clay loam	
6-12	10YR 3/2	100	none				clay loam	disturbed with oil

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): none

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil data collected by GLA on 6-9-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: Ponds only in extreme years. Did not pond or have saturated soils in 2011/2012 (data collected by GLA on 6-9-12 handwritten data form).
Aquatic Invertebrates San Diego fairy shrimp was detected in this feature during 2010-2011 wet season fairy shrimp surveys (Dudek updated data form with shrimp data).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: F

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6328896337 | Long: -117.942356771 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 9-30% slopes, eroded | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Deinandra fasciculata*	20	Yes	FACU
2. *Centaurea melitensis*	5	No	UPL
3. *Spergularia marina*	25	Yes	OBL
4. *Baccharis salicina*	10	No	FACW
5. *Hirschfeldia incana*	3	No	UPL
6.			
7.			
8.			
Total Cover:	63 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 37 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	10	x 2 =	20
FAC species		x 3 =	0
FACU species	20	x 4 =	80
UPL species	8	x 5 =	40
Column Totals:	63 (A)		165 (B)

Prevalence Index = B/A = 2.62

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50%
- [x] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Vegetation data collected by GLA on 6-9-12 (see original handwritten data form).

SOIL

Sampling Point: F

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	10YR 3/2		none				loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): none

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil data collected by GLA on 6-9-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: Ponds only in extreme years - No ponding in 2011/2012 per GLA wet season survey.
Hydrology data collected by GLA on 6-9-12 (see original handwritten data form).
Wetland hydrology indicators were not observed in this feature during delineations, hydrological monitoring, or fairy shrimp surveys (Dudek updated data form with wetland hydrology indicators data).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: G

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6336057532 | Long: -117.943356426 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 9-30% slopes, eroded | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: CCC wetland since at least one wetland criterion was met.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Bromus hordeaceus*	5	No	FACU
2. *Deinandra fasciculata*	3	No	FACU
3. *Stephanomeria virgata*	4	No	UPL
4. *Hirschfeldia incana*	5	No	UPL
5. *Cotula coronopifolia*	1	No	OBL
6. *Carduus pycnocephalus*	2	No	UPL
7.			
8.			
Total Cover:	20 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 80 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	1	x 1 =	1
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species	8	x 4 =	32
UPL species	11	x 5 =	55
Column Totals:	20 (A)		88 (B)

Prevalence Index = B/A = 4.40

Hydrophytic Vegetation Indicators:

- (●) Dominance Test is >50%
- (●) Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Vegetation data collected by GLA on 6-9-12 (see original handwritten data form).

SOIL

Sampling Point: G

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	2.5Y 3/2	100	none					

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): none

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil data collected by GLA on 6-9-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: Ponds in extreme years. No ponding or saturation in 2011/2012 per GLA wet season survey (data from GLA handwritten data form 6-9-12).
Aquatic Invertebrates San Diego fairy shrimp was detected during 2010-2011 wet season fairy shrimp surveys (Dudek updated data form with shrimp data).
Surface Soil Cracks observed by Dudek on 10-4-12.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: H

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6338535811 | Long: -117.942562527 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 0-2% slopes | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: CCC wetland since at least one wetland criterion was met.
Lacks basin topography, high number of ground squirrel burrows, loose alluvial soils, upland vegetation primarily prevalent (Dudek 10-4-12).

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Deinandra fasciculata*	40	Yes	FACU
2. *Melilotus indicus*	25	Yes	FACU
3. *Bromus hordeaceus*	15	No	FACU
4. *Spergularia marina*	5	No	OBL
5. *Ambrosia psilostachya*	5	No	FACU
6. *Rumex crispus*	5	No	FAC
7.			
8.			
Total Cover:	95 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 5 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species		x 2 =	0
FAC species	5	x 3 =	15
FACU species	85	x 4 =	340
UPL species		x 5 =	0
Column Totals:	95 (A)		360 (B)

Prevalence Index = B/A = 3.79

Hydrophytic Vegetation Indicators:

- (●) Dominance Test is >50%
- (●) Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Vegetation data collected by GLA on 6-9-12 (see original handwritten data form).

SOIL

Sampling Point: H

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	10YR 3/3		none				loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): none

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil data collected by GLA on 6-9-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: No ponding in 2011/2012 per GLA wet season survey (GLA handwritten data form 6-9-12).
Aquatic Invertebrates San Diego fairy shrimp detected in this feature during 2012 dry season fairy shrimp surveys (Dudek updated data form with shrimp data).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: I

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.633930204 | Long: -117.942253755 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 0-2% slopes | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: CCC wetland since at least one wetland criterion was met.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Melilotus indicus*	20	Yes	FACU
2. *Deinandra fasciculata*	10	No	FACU
3. *Bromus hordeaceus*	15	No	FACU
4. *Centaurea melitensis*	20	Yes	UPL
5. *Hirschfeldia incana*	5	No	UPL
6. *Heliotropium curassavicum*	5	No	FACU
7. *Rumex crispus*	3	No	FAC
8. *Polypogon monspeliensis*	3	No	FACW
Total Cover:	81 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 19 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	3	x 2 =	6
FAC species	3	x 3 =	9
FACU species	50	x 4 =	200
UPL species	25	x 5 =	125
Column Totals:	81 (A)		340 (B)

Prevalence Index = B/A = 4.20

Hydrophytic Vegetation Indicators:

- (●) Dominance Test is >50%
- (●) Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Vegetation data collected by GLA on 6-9-12 (see original handwritten data form).

SOIL

Sampling Point: I

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	10YR 3/3		none				loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): none

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil data collected by GLA on 6-9-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: Ponding only in extreme years - no ponding in 2011/2012 per GLA wet season survey (data collected by GLA 6-9-12 handwritten data form).
Aquatic Invertebrates San Diego fairy shrimp was detected during 2010-2011 wet season fairy shrimp surveys (Dudek updated data form with shrimp data).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: J

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6342101571 | Long: -117.942160001 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 0-2% slopes | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: CCC wetland since at least one wetland criterion was met.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Deinandra fasciculata*	25	Yes	FACU
2. *Bromus hordeaceus*	15	Yes	FACU
3. *Bromus rubens*	5	No	UPL
4. *Melilotus indicus*	5	No	FACU
5. *Polypogon monspeliensis*	5	No	FACW
6.			
7.			
8.			
Total Cover:	55 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 55 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	5	x 2 =	10
FAC species		x 3 =	0
FACU species	45	x 4 =	180
UPL species	5	x 5 =	25
Column Totals:	55 (A)		215 (B)

Prevalence Index = B/A = 3.91

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50%
- [ ] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Vegetation data collected by GLA on 6-9-12 (see original handwritten data form).

SOIL

Sampling Point: J

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	10YR 3/3		none				loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): none

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil data collected by GLA on 6-9-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: Ponds only in extreme years - no ponding in 2011-2012 per GLA wet season surveys (data collected on handwritten data form by GLA, 6-9-12).
Aquatic Invertebrates San Diego fairy shrimp detected during 2010-2011 wet season fairy shrimp surveys (Dudek updated data form with shrimp data).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: K

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6340760126 | Long: -117.941773803 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 0-2% slopes | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: CCC wetland since at least one wetland criterion was met.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Deinandra fasciculata*	50	Yes	FACU
2. *Melilotus indicus*	20	Yes	FACU
3. *Hirschfeldia incana*	10	No	UPL
4. *Bromus hordeaceus*	5	No	FACU
5. *Heliotropium curassavicum*	2	No	FACU
6.			
7.			
8.			
Total Cover:	87 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 13 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species	77	x 4 =	308
UPL species	10	x 5 =	50
Column Totals:	87 (A)		358 (B)

Prevalence Index = B/A = 4.11

Hydrophytic Vegetation Indicators:

- (●) Dominance Test is >50%
- (●) Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Vegetation data collected by GLA on 6-9-12 (see original handwritten data form).

SOIL

Sampling Point: K

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	10YR 3/3		none					

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): none

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil data collected by GLA on 6-9-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: Ponds only briefly in extreme years - no ponding in 2011/2012 per GLA wet season survey (GLA handwritten data form 6-9-12).
Aquatic Invertebrates Common versatile fairy shrimp and ostracod shells were present in this feature during 2012 dry season fairy shrimp surveys (Dudek updated data form with aquatic invertebrates data).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: L

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6341949008 | Long: -117.941789283 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 0-2% slopes | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: CCC wetland since at least one wetland criterion was met.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Melilotus indicus*	20	Yes	FACU
2. *Deinandra fasciculata*	15	Yes	FACU
3. *Heliotropium curassavicum*	10	Yes	FACU
4. *Centaurea melitensis*	5	No	UPL
5.			
6.			
7.			
8.			
Total Cover:	50 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 50 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species	45	x 4 =	180
UPL species	5	x 5 =	25
Column Totals:	50 (A)		205 (B)

Prevalence Index = B/A = 4.10

Hydrophytic Vegetation Indicators:

- (●) Dominance Test is >50%
- (●) Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Vegetation data collected by GLA on 6-9-12 (see original handwritten data form).

SOIL

Sampling Point: L

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	10YR 3/3		none				loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): none

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil data collected by GLA on 6-9-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: Ponds only briefly in extreme years - no ponding in 2011/2012 per GLA wet season survey (GLA handwritten data form 6-9-12).
Aquatic Invertebrates Fairy shrimp cysts and ostracod shells were present in this feature during 2012 dry season fairy shrimp surveys (Dudek updated data form with aquatic invertebrates data).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: M

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6346539413 | Long: -117.94145478 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 0-2% slopes | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: CCC wetland since at least one wetland criterion was met.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Pulicaria paludosa*	45	Yes	FAC
2. *Deinandra fasciculata*	5	No	FACU
3. *Cortaderia selloana*	5	No	FACU
4. *Baccharis salicifolia*	5	No	FAC
5. *Bromus hordeaceus*	30	Yes	FACU
6. *Polypogon monspeliensis*	3	No	FACW
7.			
8.			
Total Cover:	93 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 7 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	3	x 2 =	6
FAC species	50	x 3 =	150
FACU species	40	x 4 =	160
UPL species		x 5 =	0
Column Totals:	93 (A)		316 (B)

Prevalence Index = B/A = 3.40

Hydrophytic Vegetation Indicators:

- (●) Dominance Test is >50%
- (●) Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Vegetation data collected by GLA on 6-9-12 (see original handwritten data form).

SOIL

Sampling Point: M

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	10YR 3/3		none				loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): none

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil data collected by GLA on 6-9-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: Ponds briefly during large events - No ponding in 2011/2012 per GLA wet season survey (data collected by GLA on 6-9-12 handwritten data form).
Aquatic Invertebrates Common versatile fairy shrimp was detected during surveys 2010-2011 wet season fairy shrimp surveys and common versatile fairy shrimp and ostracod shells were present in this feature during 2012 dry season fairy shrimp surveys (Dudek updated data form with aquatic invertebrate data).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: N

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6346074478 | Long: -117.942030818 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 0-2% slopes | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: CCC wetland since at least one wetland criterion was met.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Baccharis salicifolia*	25	Yes	FAC
2.			
3.			
4.			
5.			
Total Cover:	25 %		
Herb Stratum			
1. *Deinandra fasciculata*	30	Yes	FACU
2. *Euthamia occidentalis*	5	No	FACW
3. *Heliotropium curassavicum*	5	No	FACU
4. *Heterotheca grandflora*	3	No	UPL
5. *Hirschfeldia incana*	2	No	UPL
6. *Lythrum hyssopifolia*	2	No	OBL
7. *Stephanomeria virgata*	2	No	UPL
8.			
Total Cover:	49 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 26 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	2	x 1 =	2
FACW species	5	x 2 =	10
FAC species	25	x 3 =	75
FACU species	35	x 4 =	140
UPL species	7	x 5 =	35
Column Totals:	74 (A)		262 (B)

Prevalence Index = B/A = 3.54

Hydrophytic Vegetation Indicators:

- (●) Dominance Test is >50%
- (●) Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: (veg. for entire feature) "parking" area.
Vegetation data collected by GLA on 6-9-12 (see original handwritten data form).

SOIL

Sampling Point: N

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-4	10YR 3/3		none					
4 (refusal)								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): none

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil data collected by GLA on 6-9-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: *Surface Water* Feature inundated for at least 14 days during 2010-2011 wet season fairy shrimp surveys. Ponds briefly in extreme years - in 2011-2012 maximum ponding duration was 6 days per GLA wet season survey (data collected on GLA handwritten data form 6-9-12).
Aquatic Invertebrates Common versatile fairy shrimp was detected during 2010-2011 wet season fairy shrimp surveys and fairy shrimp cysts were present during 2012 dry season fairy shrimp surveys (Dudek updated data form with shrimp data).
Surface Soil Cracks and soil ribboning observed by Dudek 10-4-12

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: O

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6347396694 | Long: -117.941924099 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 0-2% slopes | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: Depression in asphalt/gravel. Parking area
No soils - parking lot

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Deinandra fasciculata*	8	Yes	FACU
2. *Erodium botrys*	3	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	11 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 89 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species	11	x 4 =	44
UPL species		x 5 =	0
Column Totals:	11 (A)		44 (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

- (●) Dominance Test is >50%
- (●) Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Vegetation data collected by GLA on 6-9-12 (see original handwritten data form).

SOIL

Sampling Point: O

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: None - parking lot (GLA handwritten data form 6-9-12). A soil pit was not excavated due to the highly compacted character of the parking areas (asphalt/gravel). Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: Very shallow depression - only ponds briefly in extreme years - no ponding in 2011/2012 per GLA wet season survey (GLA handwritten data form 6-9-12).

Light soil cracking/soil ribboning observed by Dudek 10-4-12.

Wetland hydrology indicators were not observed in this feature during delineations or hydrological monitoring.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: P

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6351618882 | Long: -117.942292703 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 0-2% slopes | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: Feature is part of soil remediation area - excavated low area adjacent to soil stockpile. CCC wetland since at least one wetland criterion was met.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Cotula coronopifolia*	30	Yes	OBL
2. *Euthamia occidentalis*	35	Yes	FACW
3. *Lythrum hyssopifolium*	5	No	OBL
4. *Baccharis salicifolia*	5	No	FAC
5. *Polypogon monspeliensis*	5	No	FACW
6. *Deinandra fasciculata*	8	No	FACU
7.			
8.			
Total Cover:	88 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 12 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	35	x 1 =	35
FACW species	40	x 2 =	80
FAC species	5	x 3 =	15
FACU species	8	x 4 =	32
UPL species		x 5 =	0
Column Totals:	88 (A)		162 (B)

Prevalence Index = B/A = 1.84

Hydrophytic Vegetation Indicators:

- [X] Dominance Test is >50%
- [X] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: Vegetation data collected by GLA on 6-9-12 (see original handwritten data form).

SOIL

Sampling Point: P

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-4	10YR 3/2		none				sandy loam	
4-5							sandy lens	
5-8	10YR 3/2		none				clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): none

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil data collected by GLA on 6-9-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☒ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: *Surface Water Present* Ponds for less than 14 days during most years. Maximum ponding duration in 2011/2012 = 7 days per GLA wet season survey (data collected on GLA handwritten data form 6-9-12).
Aquatic Invertebrates Common versatile fairy shrimp was detected during 2010-2011 wet season fairy shrimp surveys and during 2012 dry season fairy shrimp surveys. (Dudek updated data form with shrimp data).
Surface Soil Cracks Surface soil cracks and soil ribboning observed by Dudek 10-4-12.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: Q

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.635037623 | Long: -117.942648188 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 0-2% slopes | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: CCC wetland since at least one wetland criterion was met.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Deinandra fasciculata*	4	Yes	FACU
2. *Melilotus indicus*	5	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	9 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 91 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species	9	x 4 =	36
UPL species		x 5 =	0
Column Totals:	9 (A)		36 (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50%
- [ ] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Vegetation data collected by GLA on 6-19-12 (see original handwritten data form).

SOIL

Sampling Point: Q

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): none

Hydric Soil Present? Yes ○ No ◉

Remarks: Area is partly asphalt and partly compacted earthen road shoulder (GLA handwritten data form 6-19-12). Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: *Surface Water Present* Area does not pond for 14 days during normal rainfall year. Does pond water for >14 during extreme years such as 2010/2011. Maximum ponding in 2011/2012 = 6 days per GLA wet season survey (GLA handwritten data form 6-19-12).

Aquatic Invertebrates Fairy shrimp cysts and ostracod shells were present in this feature during 2012 dry season fairy shrimp surveys (Dudek updated data form with aquatic invertebrate data).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: R

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6352092271 | Long: -117.942725278 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 0-2% slopes | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: Sampling Point is low area on Dirt Road shoulder - highly compacted CCC wetland since at least one wetland criterion was met.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Cotula coronopifolia*	35	Yes	OBL
2. *Ambrosia psilostachya*	7	No	FACU
3. *Deinandra fasciculata*	7	No	FACU
4. *Bromus hordeaceus*	10	No	FACU
5. *Hirschfeldia incana*	3	No	UPL
6. *Lythrum hyssopifolia*	3	No	OBL
7. *Polypogon monspeliensis*	2	No	FACW
8.			
Total Cover:	67 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 33 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	38	x 1 =	38
FACW species	2	x 2 =	4
FAC species		x 3 =	0
FACU species	24	x 4 =	96
UPL species	3	x 5 =	15
Column Totals:	67 (A)		153 (B)

Prevalence Index = B/A = 2.28

Hydrophytic Vegetation Indicators:

- [X] Dominance Test is >50%
- [X] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: Vegetation data collected by GLA on 6-9-12 (see original handwritten data form).

SOIL

Sampling Point: R

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-3 est.								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): NA

Hydric Soil Present? Yes ○ No ◉

Remarks: Highly compacted soil on dirt road shoulder - refusal at surface - no hydric indicators (redox) in upper 3".
Soil data collected by GLA on 6-9-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, on terraces (Dudek).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☒ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): <1

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: Maximum of 7 days ponding observed in 2010 <1" deep (data collected on GLA handwritten data form 6-9-12).
Aquatic Invertebrates Common versatile fairy shrimp was detected during 2010-2011 wet season fairy shrimp surveys (Dudek updated data form with shrimp data).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: S

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6356690332 | Long: -117.942680296 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 0-2% slopes | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: CCC wetland since at least one wetland criterion was met.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Cotula coronopifolia*	40	Yes	OBL
2. *Deinandra fasciculata*	15	Yes	FACU
3. *Hirschfeldia incana*	2	No	UPL
4. *Lythrum hyssopifolium*	3	No	OBL
5. *Polypogon monspeliensis*	2	No	FACW
6.			
7.			
8.			
Total Cover:	62 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum: % | % Cover of Biotic Crust: %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	43	x 1 =	43
FACW species	2	x 2 =	4
FAC species		x 3 =	0
FACU species	15	x 4 =	60
UPL species	2	x 5 =	10
Column Totals:	62 (A)		117 (B)

Prevalence Index = B/A = 1.89

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50%
- [x] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Vegetation data collected by GLA on 6-9-12 (see original handwritten data form).

SOIL

Sampling Point: S

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: Gravel and soil highly compacted. Refusal at surface. Area lacks wetland hydrology therefore cannot have hydric soils.
Soil data collected by GLA on 6-9-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, on terraces (Dudek).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: *Surface Water Present* Feature was inundated for at least 14 days during 2010-2011 wet season fairy shrimp surveys.
Hydrology data collected by GLA on 6-9-12 (see original handwritten data form).
Surface soil cracks, water and silt stained vegetation, and sediment deposits observed by Dudek 10-4-12.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: T

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6358448729 | Long: -117.942399155 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 0-2% slopes | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: Feature is asphalt area with oil field entry way from 17th Street entrance.
CCC wetland since at least one wetland criterion was met.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 % (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50%
- [ ] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Unvegetated. On edges, main roadway area unvegetated (data collected by GLA 6-9-12 handwritten data form).

SOIL

Sampling Point: T

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: Area is asphalt with limited areas of soil where asphalt is thin and broken (data collected by GLA 6-9-12 data form). Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: *Wetland Hydrology Present* Area ponded for > 14 days during most years; however ponding is on asphalt (data collected by GLA 6-9-12 handwritten data form). Feature was inundated for at least 14 days during 2010-2011 wet season fairy shrimp surveys.

Aquatic Invertebrates Common versatile fairy shrimp was detected during 2010-2011 and 2011-2012 wet season fairy shrimp surveys (Dudek updated data form with shrimp data).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: U

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6360751861 | Long: -117.942644246 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 0-2% slopes | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: Feature is low area in asphalt parking area - no soils or vegetation
CCC wetland since at least one wetland criterion was met.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 % (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50%
- [ ] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: No vegetation - asphalt parking area (per GLA 6-9-12 handwritten data form)

SOIL

Sampling Point: U

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: Asphalt parking area.

Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: *Surface Water* Feature was inundated for at least 14 days during 2010-2011 wet season fairy shrimp surveys. However, this feature is lined with tank bottom slurry and is underlain with highly compacted soils creating an impervious surface allowing water to pond. The ponding in this feature is due to anthropogenic additions and not an indicator of wetland hydrology.

Hydrology data collected by GLA on 6-9-12 (see original handwritten data form).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: V

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6400738873 | Long: -117.944746765 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 0-2% slopes | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: CCC wetland since at least one wetland criterion was met.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Baccharis salicifolia*	15	Yes	FAC
2.			
3.			
4.			
5.			
Total Cover:	15 %		
Herb Stratum			
1. *Hirschfeldia incana*	60	Yes	UPL
2. *Rumex crispus*	25	Yes	FAC
3. *Heliotropium curassavicum*	7	No	FACU
4. *Frankenia salina*	3	No	FACW
5.			
6.			
7.			
8.			
Total Cover:	95 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	3	x 2 =	6
FAC species	40	x 3 =	120
FACU species	7	x 4 =	28
UPL species	60	x 5 =	300
Column Totals:	110 (A)		454 (B)

Prevalence Index = B/A = 4.13

Hydrophytic Vegetation Indicators:

- [X] Dominance Test is >50%
- [ ] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: Vegetation data collected by GLA on 6-9-12 (see original handwritten data form).

SOIL

Sampling Point: V

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	10YR 3/2	100	none				sandy clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): none

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil data collected by GLA on 6-9-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: Ponds only in extreme years (data collected on GLA handwritten data form 6-9-12).
Aquatic Invertebrates Common versatile fairy shrimp were detected during the 2009-2010 wet season fairy shrimp surveys (Dudek updated data form with shrimp data).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: W

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6282611351 | Long: -117.939569538 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 2-9% slopes | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: CCC wetland since at least one wetland criterion was met.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Hirschfeldia incana*	20	Yes	UPL
2. *Hordeum marinum ssp. gussoneanum*	25	Yes	FAC
3. *Bromus rubens*	20	Yes	UPL
4. *Rumex crispus*	10	No	FAC
5. *Eleocharis macrostachya*	5	No	OBL
Total Cover:	80 %		
Herb Stratum			
1. *Lythrum hyssopifolia*	3	No	OBL
2. *Bromus diandrus*	5	No	UPL
3. *Eremocarpus setigerus*	2	No	UPL
4. *Cyperus eragrostis*	3	No	FACW
5. *Picris echioides*	2	No	FACU
6. *Distichlis spicata*	5	No	FAC
7.			
8.			
Total Cover:	20 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 0 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	8	x 1 =	8
FACW species	3	x 2 =	6
FAC species	40	x 3 =	120
FACU species	2	x 4 =	8
UPL species	47	x 5 =	235
Column Totals:	100 (A)		377 (B)

Prevalence Index = B/A = 3.77

Hydrophytic Vegetation Indicators:

- (●) Dominance Test is >50%
- (●) Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Sapling/Shrub Stratum - additional Herb Stratum that did not fit in Herb Stratum field.
Vegetation data collected by GLA on 5-26-11 (see original handwritten data form).

SOIL

Sampling Point: W

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	10YR 3/2		None					
6-12								layers of redox - ...
								...appears relictual

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil data collected by GLA on 5-26-11 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: Ponds only in extreme years - did not pond in 2011/2012 per GLA wet season survey.
Hydrology data collected by GLA on 6-9-12 (see original handwritten data form).
Aquatic Invertebrates Common versatile fairy shrimp and ostracod shells were present in this feature during 2012 dry season fairy shrimp surveys (Dudek updated data form with aquatic invertebrates data).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: X

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6386198632 | Long: -117.944341996 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 0-2% slopes | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: CCC wetland since at least one wetland criterion was met.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Cotula coronipifolia*	15	Yes	OBL
2. *Deinandra fasciculata*	25	Yes	FACU
3. *Polypogon monspeliensis*	5	No	FACW
4. *Bromus hordeaceus*	10	No	FACU
5.			
6.			
7.			
8.			
Total Cover:	55 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 45 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	5	x 2 =	10
FAC species		x 3 =	0
FACU species	35	x 4 =	140
UPL species		x 5 =	0
Column Totals:	55 (A)		165 (B)

Prevalence Index = B/A = 3.00

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50%
- [x] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: *Hydrophytic Vegetation Present* Area is road with road ruts.
Vegetation data collected by GLA on 6-9-12 (see original handwritten data form).

SOIL

Sampling Point: X

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	5YR 3/3	100	none				clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): NA

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil data collected by GLA on 6-9-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): 2-3

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: *Wetland Hydrology Present* Area pond for > 14 days within ruts. Area is major access road (hydrology data on original GLA handwritten data form 6-9-12). Feature inundated for at least 14 days during 2012-2013 rain season.
Aquatic Invertebrates Common versatile fairy shrimp observed during 2011-2012 wet season fairy shrimp surveys and common versatile fairy shrimp and ostracod shells were present in this feature during 2012 dry season fairy shrimp surveys (Dudek updated data form with aquatic invertebrates data).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: Y

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.637956545 | Long: -117.944567657 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 0-2% slopes | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: CCC wetland since at least one wetland criterion was met.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Baccharis salicifolia*	5	Yes	FAC
2. *Isocoma menziesii*	2	Yes	UPL
3.			
4.			
5.			
Total Cover:	7 %		
Herb Stratum			
1. *Deinandra fasciculata*	5	No	FACU
2. *Polypogon monspeliensis*	20	Yes	FACW
3. *Centaurea melitensis*	15	Yes	UPL
4.			
5.			
6.			
7.			
8.			
Total Cover:	40 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 53 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	20	x 2 =	40
FAC species	5	x 3 =	15
FACU species	5	x 4 =	20
UPL species	17	x 5 =	85
Column Totals:	47 (A)		160 (B)

Prevalence Index = B/A = 3.40

Hydrophytic Vegetation Indicators:

- (●) Dominance Test is >50%
- (●) Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Vegetation data collected by GLA on 6-9-12 (see original handwritten data form).

SOIL

Sampling Point: Y

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-4	7.5YR 3/3	100	none				clay loam	
4-6	7.5YR 3/3	100	none				clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): NA

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil data collected by GLA on 6-9-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: Ponding observed during extreme rainfall conditions of 2010-2011 with = 189% of normal. No ponding or saturation during 2011-2012 per GLA wet season survey. Feature inundated for at least 14 days during 2012-2013 rain season.
Hydrology data collected by GLA on 6-9-12 (see original handwritten data form).
Aquatic Invertebrates Common versatile fairy shrimp and ostracod shells were present in this feature during 2012 dry season fairy shrimp surveys (Dudek updated data form with aquatic invertebrates data).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: Z

Investigator(s): J. Davis, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6366716278 | Long: -117.944073045 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 0-2% slopes | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: Feature is excavated trench to contain potential spills from pipeline.
CCC wetland since at least one wetland criterion was met.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Baccharis salicifolia*	30	Yes	FAC
2.			
3.			
4.			
5.			
Total Cover:	30 %		
Herb Stratum			
1. *Hirschfeldia incana*	5	Yes	UPL
2. *Deinandra fasciculata*	5	Yes	FACU
3. *Pseudognaphalium luteoalbum*	3	No	FAC
4. *Conyza canadensis*	3	No	FACU
5. *Rumex crispus*	3	No	FAC
6. *Polypogon monspeliensis*	1	No	FACW
7.			
8.			
Total Cover:	20 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 50 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	1	x 2 =	2
FAC species	36	x 3 =	108
FACU species	8	x 4 =	32
UPL species	5	x 5 =	25
Column Totals:	50 (A)		167 (B)

Prevalence Index = B/A = 3.34

Hydrophytic Vegetation Indicators:

- (●) Dominance Test is >50%
- (●) Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Vegetation data collected by GLA on 6-9-12 (see original handwritten data form).

SOIL

Sampling Point: Z

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-5	10YR 3/2	100	none				clay loam	
5-12	10YR 3/3	100	none				sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: None

Depth (inches): NA

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil data collected by GLA on 6-9-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: Brief ponding during extreme 2010/2011 rainfall year.
No ponding or saturation in 2011/2012 rainfall season per GLA wet season survey.
Hydrology data collected by GLA on 6-9-12 (see original handwritten data form).
Aquatic Invertebrates Common versatile fairy shrimp and ostracod shells were present in this feature during 2012 dry season fairy shrimp surveys (Dudek updated data form with aquatic invertebrates data).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: AA

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6346830052 | Long: -117.945096631 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 0-2% slopes | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Deinandra fasciculata*	20	Yes	FACU
2. *Melilotus indicus*	15	Yes	FACU
3. *Bromus rubens*	5	No	UPL
4. *Centaurea melitensis*	5	No	UPL
5. *Polypogon monspeliensis*	2	No	FACW
6. *Vulpia myuros*	2	No	FACU
7.			
8.			
Total Cover:	49 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 51 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	2	x 2 =	4
FAC species		x 3 =	0
FACU species	37	x 4 =	148
UPL species	10	x 5 =	50
Column Totals:	49 (A)		202 (B)

Prevalence Index = B/A = 4.12

Hydrophytic Vegetation Indicators:

- (●) Dominance Test is >50%
- (●) Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Low area adjacent to well pad.
Vegetation data collected by GLA on 6-9-12 (see original handwritten data form).

SOIL

Sampling Point: AA

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	10YR 3/3		none					

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): none

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil data collected by GLA on 6-9-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: Ponds briefly in extreme years.
No ponding in 2011-2012 per GLA wet season survey.
Hydrology data collected by GLA on 6-9-12 (see original handwritten data form).
Wetland hydrology indicators were not observed in this feature during delineations, hydrological monitoring, or fairy shrimp surveys.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: BB

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6336946663 | Long: -117.944395838 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 0-2% slopes | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: CCC wetland since at least one wetland criterion was met.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Bromus hordeaceus*	60	Yes	FACU
2. *Bromus rubens*	25	Yes	UPL
3. *Centaurea melitensis*	15	No	UPL
4.			
5.			
6.			
7.			
8.			
Total Cover:	100 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 0 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species	60	x 4 =	240
UPL species	40	x 5 =	200
Column Totals:	100 (A)		440 (B)

Prevalence Index = B/A = 4.40

Hydrophytic Vegetation Indicators:

- (●) Dominance Test is >50%
- (●) Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Vegetation data collected by GLA on 6-9-12 (see original handwritten data form).

SOIL

Sampling Point: BB

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	10YR 3/2		none				sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): none

Hydric Soil Present? Yes ○ No ◉

Remarks: in pipeline array. Soild data collected by GLA on 6-9-12 (see original handwritten data form).
Friable soils. Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: No ponding in 2011-2012 per GLA wet season survey.
Hydrology data collected by GLA on 6-9-12 (see original handwritten data form).
Aquatic Invertebrates Fairy shrimp cysts and ostracod shells were present in this feature during 2012 dry season fairy shrimp surveys (Dudek updated data form with aquatic invertebrates data).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: CC

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6330437278 | Long: -117.944981759 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 0-2% slopes | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: Feature is open pit excavated to repair oil field infrastructure
CCC wetland since at least one wetland criterion was met.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Lythrum hyssopifolium*	10	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	10 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 90 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species		x 4 =	0
UPL species		x 5 =	0
Column Totals:	10 (A)		10 (B)

Prevalence Index = B/A = 1.00

Hydrophytic Vegetation Indicators:

- [X] Dominance Test is >50%
- [X] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: *Hydrophytic Vegetation Present* Feature is excavated pit opened up to repair pipeline - area ponds water for > 14 days and supports one opportunistic non-native weed.
Vegetation data collected by GLA on 6-9-12 (see original handwritten data form).

SOIL

Sampling Point: CC

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	10YR 3/2		none				sandy clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): NA

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil data collected by GLA on 6-9-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☒ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): 8-10

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: *Wetland Hydrology Present* Area is excavated pit to repair pipeline (data collected by GLA on original handwritten data form 6-9-12).
Aquatic Invertebrates Common versatile fairy shrimp observed during 2011-2012 wet season fairy shrimp surveys and common versatile fairy shrimp and ostracod shells were present in this feature during 2012 dry season fairy shrimp surveys (Dudek updated data form with aquatic invertebrates data).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: DD

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6323472801 | Long: -117.944387485 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 0-2% slopes | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: CCC wetland since at least one wetland criterion was met.
Appears to be anthropogenic created.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Deinandra fasciculata*	25	Yes	FACU
2. *Isocoma menziesii*	5	No	UPL
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	30 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 70 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species	25	x 4 =	100
UPL species	5	x 5 =	25
Column Totals:	30 (A)		125 (B)

Prevalence Index = B/A = 4.17

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50%
- [ ] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Low area in stockpile.
Vegetation data collected by GLA on 6-9-12 (see original handwritten data form).

SOIL

Sampling Point: DD

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	7.5YR 3/3		none					

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): none

Hydric Soil Present? Yes ○ No ◉

Remarks: Soild data collected by GLA on 6-9-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: Ponds briefly in extreme years. No ponding in 2011-2012 per GLA wet season survey.
Hydrology data collected by GLA on 6-9-12 (see original handwritten data form).
Surface soil cracks evident but not prevalent (Dudek 10-4-12).
Aquatic Invertebrates Common versatile fairy shrimp, ostracod shells, and cladoceran ephippia were present in this feature during 2012 dry season fairy shrimp surveys (Dudek updated data form with aquatic invertebrates data).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: EE

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6324538548 | Long: -117.943930146 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 9-30% slopes, eroded | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: CCC wetland since at least one wetland criterion was met.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Deinandra fasciculata*	25	Yes	FACU
2. *Centaurea melitensis*	10	No	UPL
3. *Isocoma menziesii*	5	No	UPL
4. *Polypogon monspeliensis*	20	Yes	FACW
5. *Rumex crispus*	3	No	FAC
6.			
7.			
8.			
Total Cover:	63 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum: 37 % | % Cover of Biotic Crust: 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	20	x 2 =	40
FAC species	3	x 3 =	9
FACU species	25	x 4 =	100
UPL species	15	x 5 =	75
Column Totals:	63 (A)		224 (B)

Prevalence Index = B/A = 3.56

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50%
- [ ] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Well pad.
Vegetation data collected by GLA on 6-9-12 (see original handwritten data form).

SOIL

Sampling Point: EE

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): none

Hydric Soil Present? Yes ○ No ◉

Remarks: highly compacted well pad - no soils (GLA handwritten data form 6-9-12).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: No ponding in 2011/2012 per GLA wet season survey (GLA handwritten data form 6-9-12).
Aquatic Invertebrates Common versatile fairy shrimp were present in this feature during 2012 dry season fairy shrimp surveys (Dudek updated data form with aquatic invertebrates data).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: FF

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6314838289 | Long: -117.945152311 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 0-2% slopes | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: CCC wetland since at least one wetland criterion was met.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Deinandra fasciculata*	35	Yes	FACU
2. *Centaurea melitensis*	40	Yes	UPL
3. *Bromus rubens*	4	No	UPL
4. *Bassia hyssopifolia*	3	No	FAC
5. *Salsola tragus*	3	No	FACU
6. *Isocoma menziesii*	5	No	UPL
7. *Hirschfeldia incana*	2	No	UPL
8.			
Total Cover:	92 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 8 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	3	x 3 =	9
FACU species	38	x 4 =	152
UPL species	51	x 5 =	255
Column Totals:	92 (A)		416 (B)

Prevalence Index = B/A = 4.52

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50%
- [ ] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Vegetation data collected by GLA on 6-9-12 (see original handwritten data form).

SOIL

Sampling Point: FF

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	10YR 3/3		none					

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): none

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil data collected by GLA on 6-9-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: No ponding in 2011-2012 per GLA wet season survey.
Hydrology data collected by GLA on 6-9-12 (see original handwritten data form).
Aquatic Invertebrates Common versatile fairy shrimp were present in this feature during 2012 dry season fairy shrimp surveys (Dudek updated data form with aquatic invertebrates data).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: GG

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6307200434 | Long: -117.944335444 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 9-30% slopes, eroded | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: CCC wetland since at least one wetland criterion was met.
Highly disturbed, compact dirt on oil pad and road, shallow depression present, 0% vegetated (Dudek 10-4-12).

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Hirschfeldia incana*	5	Yes	UPL
2. *Bromus madritensis rubens*	5	Yes	UPL
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	10 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 90 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species		x 4 =	0
UPL species	10	x 5 =	50
Column Totals:	10 (A)		50 (B)

Prevalence Index = B/A = 5.00

Hydrophytic Vegetation Indicators:

- (●) Dominance Test is >50%
- (●) Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Active well site.
Vegetation data collected by GLA on 6-9-12 (see original handwritten data form).

SOIL

Sampling Point: GG

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	10YR 3/2	100	none				sandy loam	in road/well pad

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): none

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil data collected by GLA on 6-9-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: *Surface Water Present* Shallow ponding with road ruts and low area on well pad and access road. Area is active road and well pad and not a wetland (data collected on 6-9-12 GLA handwritten data form). Feature was inundated for at least 14 days during 2010-2011 wet season fairy shrimp surveys and during the 2012-2013 rain season.
Aquatic Invertebrates Common versatile fairy shrimp observed during 2011-2012 wet season fairy shrimp surveys and during 2012 dry season fairy shrimp surveys (Dudek updated data form with shrimp data).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: HH

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6325182733 | Long: -117.947438662 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 9-30% slopes, eroded | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)		
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?**	**Yes ( )** **No (●)**
Wetland Hydrology Present?	Yes (●)	No ( )		

Remarks: CCC wetland since at least one wetland criterion was met.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Deinandra fasciculata*	40	Yes	FACU
2. *Baccharis salicifolia*	5	No	FAC
3. *Baccharis emoryi*	10	No	UPL
4. *Heliotropium curassavicum*	5	No	FACU
5. *Melilotus indicus*	5	No	FACU
6.			
7.			
8.			
Total Cover:	65 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 35 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	5	x 3 =	15
FACU species	50	x 4 =	200
UPL species	10	x 5 =	50
Column Totals:	65 (A)		265 (B)

Prevalence Index = B/A = 4.08

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50%
- [ ] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? **Yes ( )** **No (●)**

Remarks: Vegetation data collected by GLA on 6-9-12 (see original handwritten data form).

SOIL

Sampling Point: HH

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	10YR 3/3		none				clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): none

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil data collected by GLA on 6-9-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: Ponded for < 14 days (data from GLA handwritten data form 6-9-12).
Aquatic Invertebrates Common versatile fairy shrimp observed during 2011-2012 wet season fairy shrimp surveys and during 2012 dry season fairy shrimp surveys (Dudek updated data form with shrimp data).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: II

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6312928423 | Long: -117.94679922 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 9-30% slopes, eroded | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: CCC wetland since at least one wetland criterion was met.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Heliotropium curassavicum*	25	Yes	FACU
2. *Deinandra fasciculata*	5	No	FACU
3. *Lythrum hyssopifolia*	2	No	OBL
4. *Polypogon monspeliensis*	1	No	FACW
5.			
6.			
7.			
8.			
Total Cover:	33 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 67 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	2	x 1 =	2
FACW species	1	x 2 =	2
FAC species		x 3 =	0
FACU species	30	x 4 =	120
UPL species		x 5 =	0
Column Totals:	33 (A)		124 (B)

Prevalence Index = B/A = 3.76

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50%
- [ ] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Obvious bulldozer scrape
Vegetation data collected by GLA on 6-9-12 (see original handwritten data form).

SOIL

Sampling Point: II

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-4	10YR 4/2		none				sandy loam	well drained
refusal								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): none

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil data collected by GLA on 6-9-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: Ponded for < 3 days in 2011/2012 per GLA wet season survey.
Hydrology data collected by GLA on 6-9-12 (see original handwritten data form).
Aquatic Invertebrates Fairy shrimp cysts and ostracod shells were present in this feature during 2012 dry season fairy shrimp surveys (Dudek updated data form with aquatic invertebrates data).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: JJ

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6305241192 | Long: -117.946395975 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 0-2% slopes | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Centaurea melitensis*	35	Yes	UPL
2. *Deinandra fasciculata*	5	No	FACU
3. *Heliotropium curassavicum*	5	No	FACU
4. *Ambrosia psilostachya*	7	No	FACU
5. *Encelia californica*	3	No	UPL
6.			
7.			
8.			
Total Cover:	55 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum: 45 % | % Cover of Biotic Crust: 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species	17	x 4 =	68
UPL species	38	x 5 =	190
Column Totals:	55 (A)		258 (B)

Prevalence Index = B/A = 4.69

Hydrophytic Vegetation Indicators:

- (●) Dominance Test is >50%
- (●) Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Roadside pool.
Vegetation data collected by GLA on 6-9-12 (see original handwritten data form).

SOIL

Sampling Point: JJ

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-4	10YR 4/2		none				loamy sand	well drained
refusal								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): none

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil data collected by GLA on 6-9-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: Road pool - not ponded in 2011/2012 per GLA wet season survey.
Hydrology data collected by GLA on 6-9-12 (see original handwritten data form).
Wetland hydrology indicators were not observed in this feature during delineations, hydrological monitoring, or fairy shrimp surveys.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: KK

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6295938347 | Long: -117.945227035 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 0-2% slopes | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: CCC wetland since at least one wetland criterion was met.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Eleocharis palustris*	20	Yes	OBL
2. *Bromus hordeaceus*	5	No	FACU
3. *Hirschfeldia incana*	15	Yes	UPL
4. *Rumex crispus*	5	No	FAC
5. *Polypogon monspeliensis*	8	No	FACW
6. *Deinandra fasciculata*	3	No	FACU
7. *Ambrosia psilostachya*	5	No	FACU
8. *Centaurea melitensis*	8	No	UPL
Total Cover:	69 %		
Woody Vine Stratum			
1. *Heliotropium curassavicum*	3	No	FACU
2. *Euthamia occidentalis*	2	No	FACW
Total Cover:	5 %		

% Bare Ground in Herb Stratum: 26 % | % Cover of Biotic Crust: 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	10	x 2 =	20
FAC species	5	x 3 =	15
FACU species	16	x 4 =	64
UPL species	23	x 5 =	115
Column Totals:	74 (A)		234 (B)

Prevalence Index = B/A = 3.16

Hydrophytic Vegetation Indicators:

- (●) Dominance Test is >50%
- (●) Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Woody Vine Stratum is additional Herb Stratum. Not enough space to include Herb Stratum within provided lines.

Vegetation data collected by GLA on 6-9-12 (see original handwritten data form).

SOIL

Sampling Point: KK

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	10YR 3/2						clay loam	
0-4			7.5YR 3/4	20				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☒ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): none

Hydric Soil Present? Yes ◉ No ○

Remarks: Soil data collected by GLA on 6-9-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: Hydrology data collected by GLA on 6-9-12 (see original handwritten data form).
Aquatic Invertebrates Common versatile fairy shrimp and ostracod shells were present in this feature during 2012 dry season fairy shrimp surveys (Dudek updated data form with aquatic invertebrates data).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: LL

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 29, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6274954334 | Long: -117.944694938 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 2-9% slopes | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: CCC wetland since at least one wetland criterion was met.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Bromus hordeaceus*	25	Yes	FACU
2. *Deinandra fasciculata*	5	No	FACU
3. *Bromus rubens*	5	No	UPL
4. *Plantago elongata*	15	Yes	FACW
5. *Rumex crispus*	2	No	FAC
6. *Distichlis spicata*	3	No	FAC
7. *Isocoma menziesii*	2	No	UPL
8.			
Total Cover:	57 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum: 43 % | % Cover of Biotic Crust: 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	15	x 2 =	30
FAC species	5	x 3 =	15
FACU species	30	x 4 =	120
UPL species	7	x 5 =	35
Column Totals:	57 (A)		200 (B)

Prevalence Index = B/A = 3.51

Hydrophytic Vegetation Indicators:

- (●) Dominance Test is >50%
- (●) Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Vegetation data collected by GLA on 6-9-12 (see original handwritten data form).

SOIL

Sampling Point: LL

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-4	10YR 3/2		none				sandy clay loam	
(refusal)								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): none

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil data collected by GLA on 6-9-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: Ponded for less than 3 days in April 2012 otherwise not ponded in 2011/2012 per GLA wet season survey.
Hydrology data collected by GLA on 6-9-12 (see original handwritten data form).
Aquatic Invertebrates Common versatile fairy shrimp were present in this feature during 2012 dry season fairy shrimp surveys (Dudek updated data form with aquatic invertebrates data).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: MM

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 29, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6268329548 | Long: -117.944696522 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 2-9% slopes | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: CCC wetland since at least one wetland criterion was met.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Polypogon monspeliensis*	40	Yes	FACW
2. *Cotula coronopifolia*	25	Yes	OBL
3. *Vulpia myoros*	5	No	FACU
4. *Bromus hordeaceus*	5	No	FACU
5. *Rumex crispus*	5	No	FAC
6. *Eleocharis macrostachya*	5	No	OBL
7. *Melilotus indica*	5	No	FACU
8. *Deinandra fasciculata*	5	No	FACU
Total Cover:	95 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 5 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	40	x 2 =	80
FAC species	5	x 3 =	15
FACU species	20	x 4 =	80
UPL species		x 5 =	0
Column Totals:	95 (A)		205 (B)

Prevalence Index = B/A = 2.16

Hydrophytic Vegetation Indicators:

- [X] Dominance Test is >50%
- [X] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: Vegetation data collected by GLA on 5-10-12 (see original handwritten data form).

SOIL

Sampling Point: MM

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-5	10YR 3/2	100	none				sandy clay loam	
*								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): none

Hydric Soil Present? Yes ○ No ◉

Remarks: * 1/2" thick lens within upper 5" with 7.5YR 4/3 - not 2" thick. Soil data collected by GLA on 5-10-12 (see original handwritten data form).

Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, on terraces (Dudek).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☒ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: Ponds in excessive years - ponded for maximum of 4 days in April 2012 per GLA wet season survey (data from GLA 5-10-12 handwritten data form).

Aquatic Invertebrates Common versatile fairy shrimp observed during 1999-2000 wet season fairy shrimp surveys and common versatile fairy shrimp and ostracod shells were present in this feature during 2012 dry season fairy shrimp surveys (Dudek updated data form with aquatic invertebrates data).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: NN

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 29, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6271070213 | Long: -117.943863166 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 2-9% slopes | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Rumex crispus*	25	Yes	FAC
2. *Hordeum murinum leporinum*	25	Yes	FACU
3. *Erodium botry*	5	No	FACU
4. *Bromus diandrus*	2	No	UPL
5. *Bromus hordeaceus*	3	No	FACU
6.			
7.			
8.			
Total Cover:	60 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 40 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	25	x 3 =	75
FACU species	33	x 4 =	132
UPL species	2	x 5 =	10
Column Totals:	60 (A)		217 (B)

Prevalence Index = B/A = 3.62

Hydrophytic Vegetation Indicators:

- (●) Dominance Test is >50%
- (●) Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Vegetation data collected by GLA on 6-9-12 (see original handwritten data form).

SOIL

Sampling Point: NN

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-5	10YR 3/2		none				sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): none

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil data collected by GLA on 6-9-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: Wetland hydrology indicators were not observed in this feature during delineations, hydrological monitoring, or fairy shrimp surveys.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: OO

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 29, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6264871663 | Long: -117.943812794 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 9-30% slopes, eroded | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: CCC wetland since at least one wetland criterion was met.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Spergularia marina*	20	Yes	OBL
2. *Erodium cicutarium*	10	No	UPL
3. *Erodium botrys*	5	No	FACU
4. *Bromus hordeaceus*	5	No	FACU
5. *Vulpia myuros*	5	No	FACU
6. *Cotula coronopifolia*	3	No	OBL
7. *Deinandra fasciculata*	3	No	FACW
8. *Hirschfeldia incana*	1	No	UPL
Total Cover:	52 %		
Woody Vine Stratum			
1. *Bromus madritensis rubens*	2	No	UPL
2.			
Total Cover:	2 %		

% Bare Ground in Herb Stratum: 46 % | % Cover of Biotic Crust: 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	23	x 1 =	23
FACW species	3	x 2 =	6
FAC species		x 3 =	0
FACU species	15	x 4 =	60
UPL species	13	x 5 =	65
Column Totals:	54 (A)		154 (B)

Prevalence Index = B/A = 2.85

Hydrophytic Vegetation Indicators:

- [X] Dominance Test is >50%
- [X] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: Woody Vine Stratum is additional species from Herb Stratum. Not enough lines to add all Herb Stratum within category.

Vegetation data collected by GLA on 9-6-12 (see original handwritten data form).

SOIL

Sampling Point: OO

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	10YR 3/2	100	none				sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): none

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil data collected by GLA on 9-6-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☒ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: Very shallow low area in road - no ponding in 2011/2012 per GLA wet season survey.
Hydrology data collected by GLA on 9-6-12 (see original handwritten data form).
Aquatic Invertebrates Common versatile fairy shrimp were present in this feature during 2012 dry season fairy shrimp surveys (Dudek updated data form with aquatic invertebrates data).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: PP

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 29, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6264296779 | Long: -117.942459837 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 2-9% slopes | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: CCC wetland since at least one wetland criterion was met.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Polypogon monspeliensis*	70	Yes	FACW
2. *Cotula coronopifolia*	5	No	OBL
3. *Rumex crispus*	5	No	FAC
4. *Deinandra fasciculata*	10	No	FACU
5.			
6.			
7.			
8.			
Total Cover:	90 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 10 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	70	x 2 =	140
FAC species	5	x 3 =	15
FACU species	10	x 4 =	40
UPL species		x 5 =	0
Column Totals:	90 (A)		200 (B)

Prevalence Index = B/A = 2.22

Hydrophytic Vegetation Indicators:

- [X] Dominance Test is >50%
- [X] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: Vegetation data collected by GLA on 6-9-12 (see original handwritten data form).

SOIL

Sampling Point: PP

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-3	10YR 3/2		none					
3-4			10YR 3/3	5				
refusal								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): none

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil data collected by GLA on 6-9-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☒ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☒ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: *Aquatic Invertebrates* Common versatile fairy shrimp observed during 1999-2000 wet season fairy shrimp surveys and during 2012 dry season fairy shrimp surveys (Dudek updated data form with aquatic invertebrates data).

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: QQ

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6287332594 | Long: -117.94090746 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 9-30% slopes, eroded | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: Feature is slightly depressed area; not a natural depression.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Isocoma menziesii*	5	Yes	UPL
2.			
3.			
4.			
5.			
Total Cover:	5 %		
Herb Stratum			
1. *Bromus hordeaceus*	15	Yes	FACU
2. *Erodium botrys*	10	Yes	FACU
3. *Hirschfeldia incana*	10	Yes	UPL
4. *Erodium cicutarium*	5	No	UPL
5. *Rumex crispus*	2	No	FAC
6. *Vulpia myuros*	2	No	FACU
7. *Carduus pycnocephalus*	5	No	UPL
8.			
Total Cover:	49 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 46 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	2	x 3 =	6
FACU species	27	x 4 =	108
UPL species	25	x 5 =	125
Column Totals:	54 (A)		239 (B)

Prevalence Index = B/A = 4.43

Hydrophytic Vegetation Indicators:

- (●) Dominance Test is >50%
- (●) Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Sampling in August 2011 found the following: Bromus hordeaceus 70%, Deinandra fasciculata 20%, Rumex crispus 5%, Isocoma menziesii 2%, Croton setigerus 2% (GLA handwritten data form 5-1-12).

Vegetation data collected by GLA on 5-1-12 (see original handwritten data form).

SOIL

Sampling Point: QQ

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-12	2.5Y 3/3	100	none				sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): NA

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil data collected by GLA on 5-1-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: Feature QQ exhibited ponding during 2010-2011 rainfall season which was 189% of normal and not indicative of "most" years. No ponding during 2011-2012 rainy season per GLA wet season survey.
Hydrology data collected by GLA on 5-1-12 (see original handwritten data form).
Wetland hydrology indicators were not observed in this feature during delineations, hydrological monitoring, or fairy shrimp surveys.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: RR

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 20, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6283750068 | Long: -117.94054030 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 9-30% slopes, eroded | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: Feature consists of two tire ruts

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Deinandra fasciculata*	20	Yes	FACU
2. *Bromus hordeaceus*	15	Yes	FACU
3. *Vulpia myuros*	25	Yes	FACU
4. *Erodium botrys*	5	No	FACU
5. *Rumex crispus*	5	No	FAC
6. *Centaurea melitensis*	2	No	UPL
7. *Erodium cicutarium*	1	No	UPL
8. *Bromus rubens*			
Total Cover:	73 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 27 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	5	x 3 =	15
FACU species	65	x 4 =	260
UPL species	3	x 5 =	15
Column Totals:	73 (A)		290 (B)

Prevalence Index = B/A = 3.97

Hydrophytic Vegetation Indicators:

- (●) Dominance Test is >50%
- (●) Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Vegetation data collected by GLA on 5-1-12 (see original handwritten data form).

SOIL

Sampling Point: RR

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	2.5Y 3/3	100	none				sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): NA

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil data collected by GLA on 5-1-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: Brief ponding during 2011-2012 rainfall year which = 189% of normal. No ponding or saturation during 2011-2012 per GLA wet season survey.
Hydrology data collected by GLA on 5-1-12 (see original handwritten data form).
Wetland hydrology indicators were not observed in this feature during delineations or hydrological monitoring.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: SS

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 29, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6276786323 | Long: -117.940731849 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 2-9% slopes | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Vulpia myuros*	20	Yes	FACU
2. *Acmispon glaber*	45	Yes	UPL
3. *Isocoma menziesii*	15	No	UPL
4. *Centaurea melitensis*	5	No	UPL
5. *Rumex crispus*	1	No	FAC
6. *Heterotheca grandiflora*	2	No	UPL
7.			
8.			
Total Cover:	88 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 12 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	1	x 3 =	3
FACU species	20	x 4 =	80
UPL species	67	x 5 =	335
Column Totals:	88 (A)		418 (B)

Prevalence Index = B/A = 4.75

Hydrophytic Vegetation Indicators:

- (●) Dominance Test is >50%
- (●) Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Vegetation data collected by GLA on 5-1-12 (see original handwritten data form).

SOIL

Sampling Point: SS

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	2.5Y 3/3	100	none				sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): NA

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil data collected by GLA on 5-1-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: Brief ponding during excessive rainfall year of 2010/2011 (189% of normal).
No ponding in 2011/2012 or soil saturation per GLA wet season survey.
Hydrology data collected by GLA on 5-1-12 (see original handwritten data form).
Wetland hydrology indicators were not observed in this feature during delineations or hydrological monitoring.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Newport Banning Ranch | City/County: Orange County | Sampling Date: 10-4-12

Applicant/Owner: Newport Banning Ranch LLC | State: CA | Sampling Point: TT

Investigator(s): J. Davis IV, T. Wotipka, H. Moine | Section, Township, Range: Section 29, T6S, R10W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): <2

Subregion (LRR): C - Mediterranean California | Lat: 33.6274285121 | Long: -117.940814063 | Datum: WGS 84

Soil Map Unit Name: Myford sandy loam 2-9% slopes | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: Feature is low area in former asphalt roadway where asphalt has deteriorated

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Bromus hordeaceus*	40	Yes	FACU
2. *Isocoma menziesii*	15	Yes	UPL
3. *Melilotus indicus*	15	Yes	FACU
4. *Erodium botrys*	5	No	FACU
5. *Rumex crispus*	10	No	FAC
6.			
7.			
8.			
Total Cover:	85 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 15 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	10	x 3 =	30
FACU species	60	x 4 =	240
UPL species	15	x 5 =	75
Column Totals:	85 (A)		345 (B)

Prevalence Index = B/A = 4.06

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50%
- [ ] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Vegetation data collected by GLA on 5-1-12 (see original handwritten data form).

SOIL

Sampling Point: TT

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	2.5Y 3/3	100	none				sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): NA

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil data collected by GLA on 5-1-12 (see original handwritten data form).
Myford soils are deep, moderately well drained soils, medium to rapid runoff, very slow permeability, formed on terraces (Dudek updated soil type).

HYDROLOGY

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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: Brief ponding during 2010/2011 which accounted for 189% of normal rainfall - No ponding or saturation in 2011/2012 monitoring period per GLA wet season survey.
Hydrology data collected by GLA on 5-1-12 (see original handwritten data form).
Wetland hydrology indicators were not observed in this feature during delineations or hydrological monitoring.

APPENDIX B

Photo Plates

APPENDIX B
Photo Plates

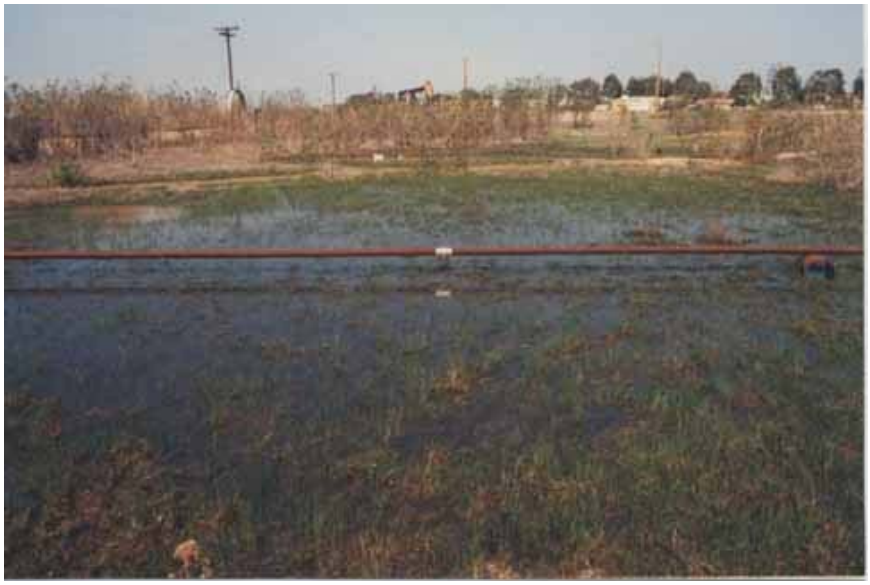

Photo 1. Feature VP1 during wet conditions in 2000 (GLA).

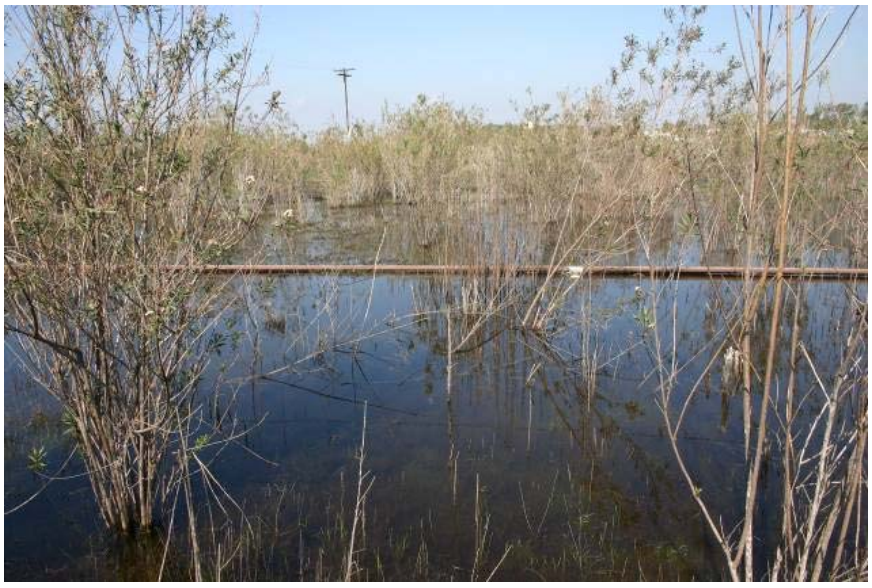

Photo 2. Feature VP1 during wet conditions with native mulefat (*Baccharis salicifolia*) in 2010 (GLA).

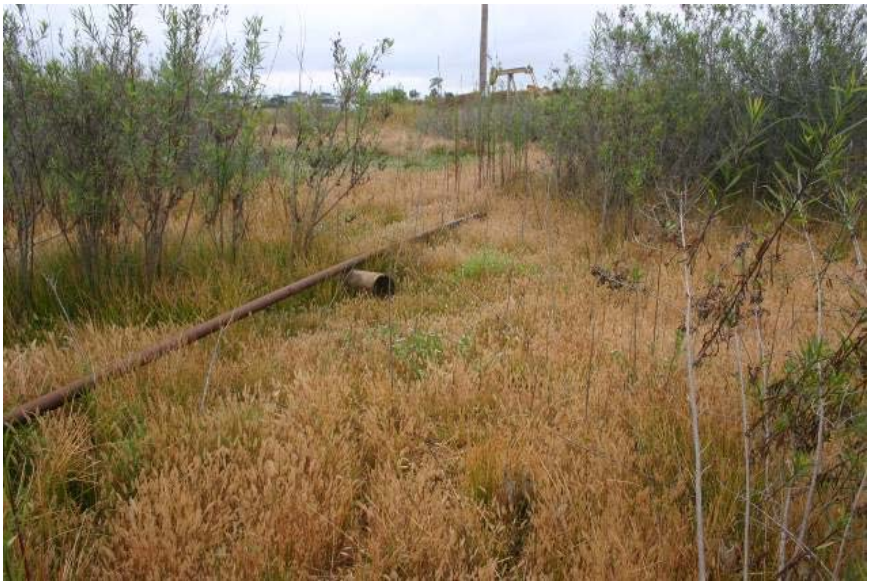

Photo 3. Feature VP1 during dry conditions with non-native annual rabbitsfoot grass (*Polypogon monspeliensis*) and native mulefat (GLA).

Photo 4. Feature VP1 during dry conditions with non-native annual rabbitsfoot grass and native mulefat (GLA).

Photo 5. Feature VP2 during wet conditions (GLA).

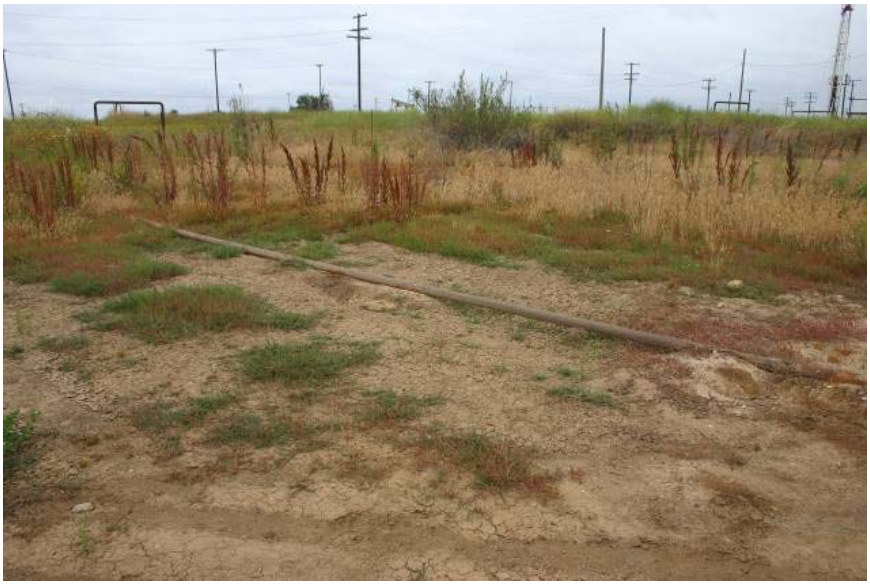

Photo 6. Feature VP2 during dry conditions with non-native vegetation (GLA).

Photo 7. Feature VP3 during wet conditions in 2010 (GLA).

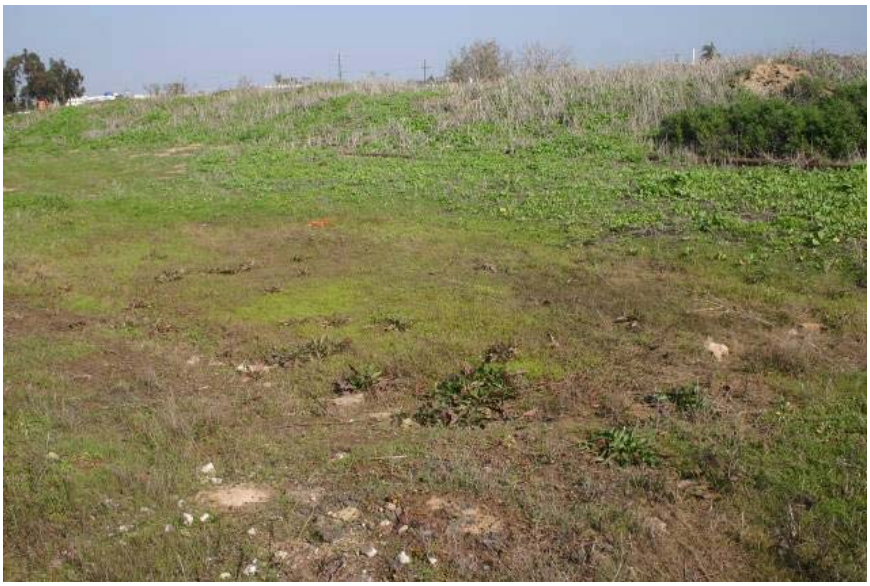

Photo 8. Feature VP3 during dry conditions (GLA).

Photo 9. Feature A during wet conditions in 2008 (GLA).

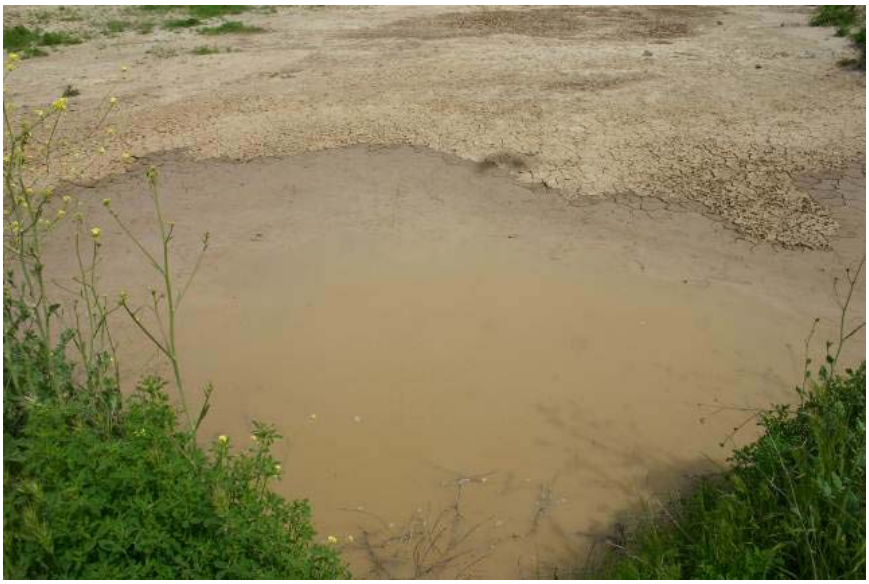

Photo 10. Feature B during wet conditions (GLA).

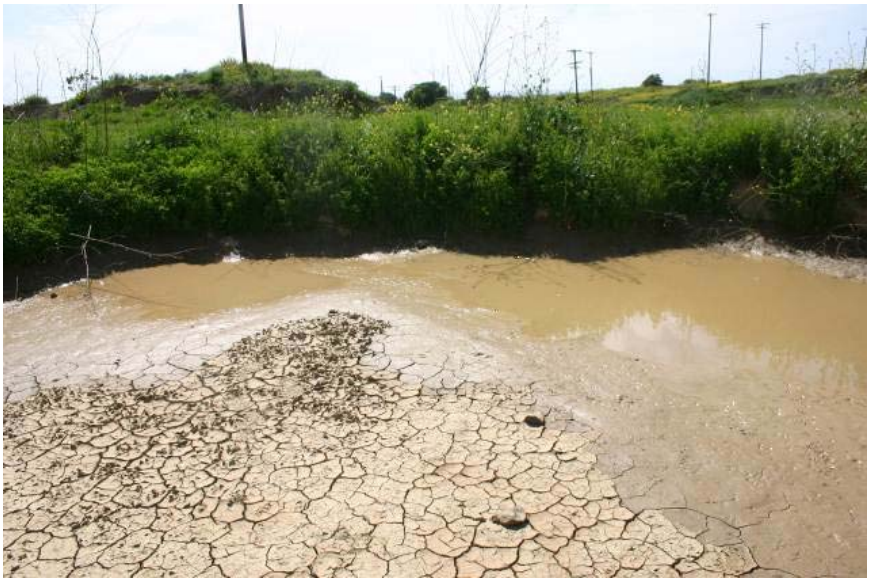

Photo 11. Feature B during wet conditions (GLA).

Photo 12. Feature C during a dry conditions (GLA).

Photo 13. Feature C during wet conditions (GLA).

Photo 14. Feature D during dry conditions (GLA).

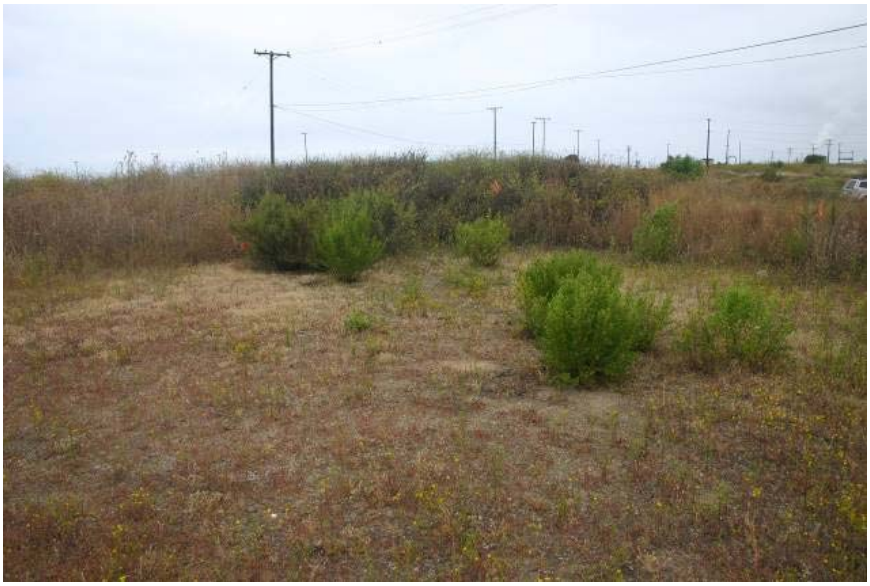

Photo 15. Feature F during dry conditions (GLA).

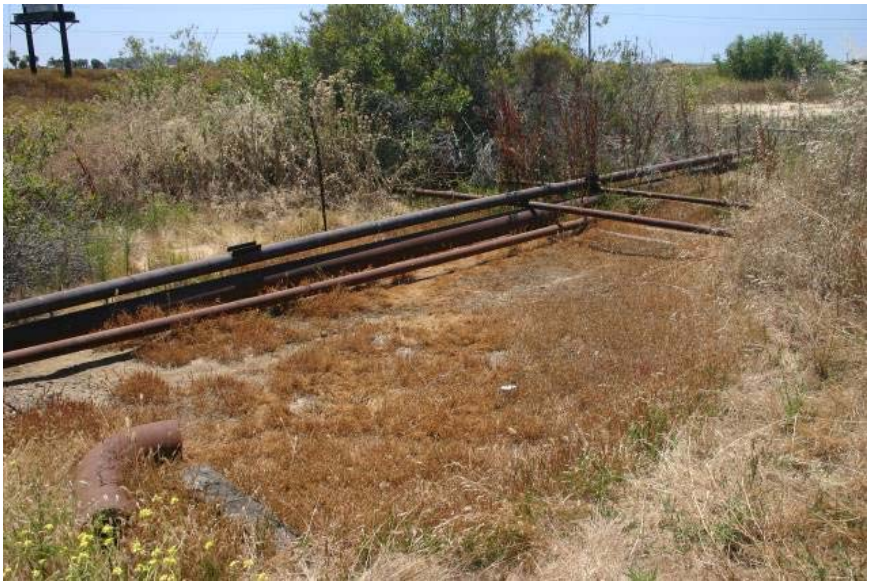

Photo 16. Feature G during dry conditions (GLA).

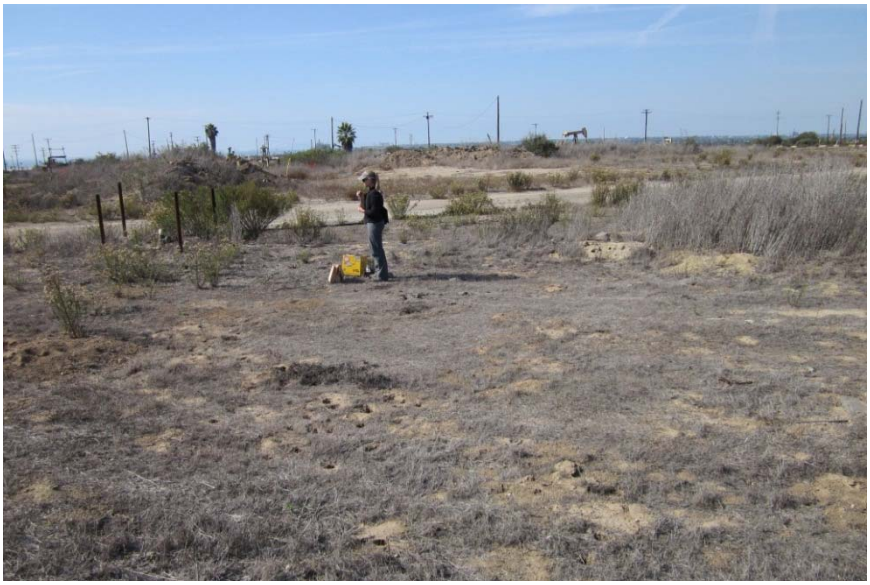

Photo 17. Feature H during dry conditions in November 2012 (Dudek).

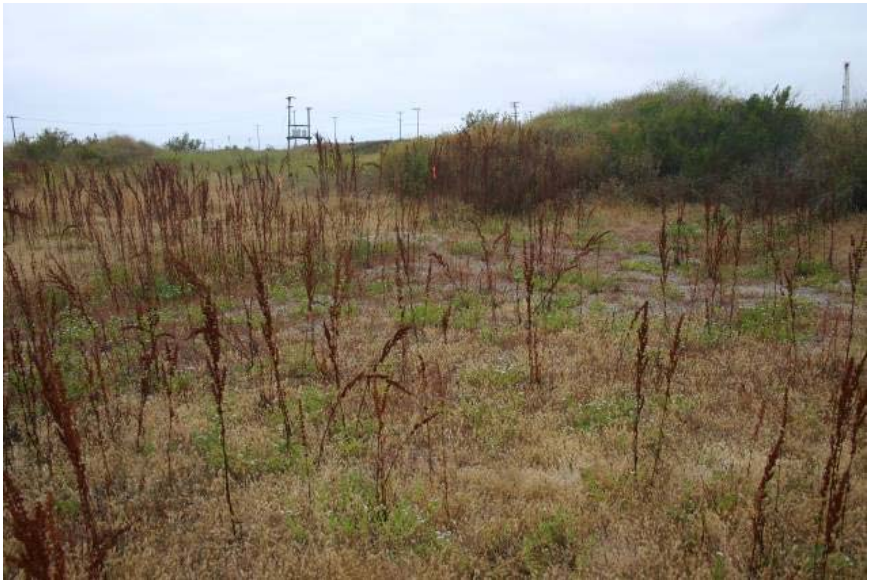

Photo 18. Feature I during dry conditions (GLA).

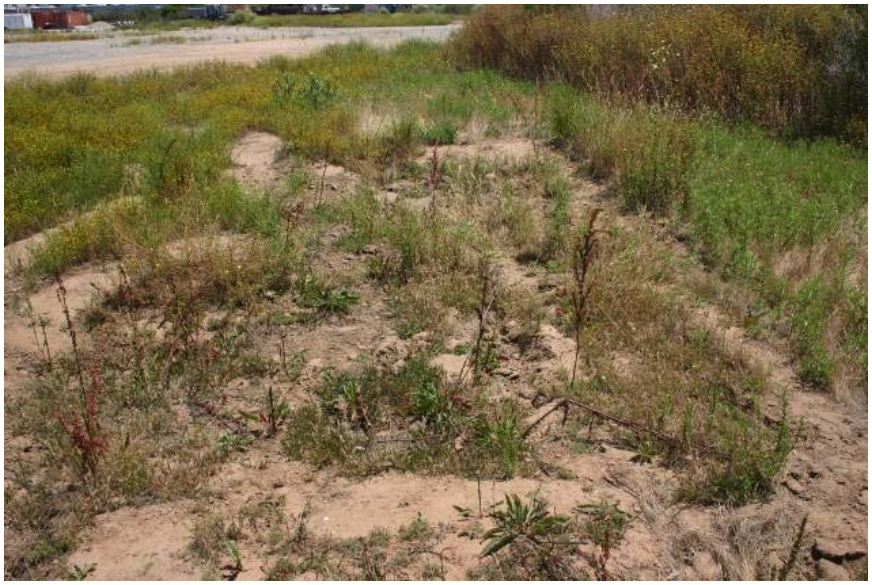

Photo 19. Feature J supporting a predominance of non-native vegetation (GLA).

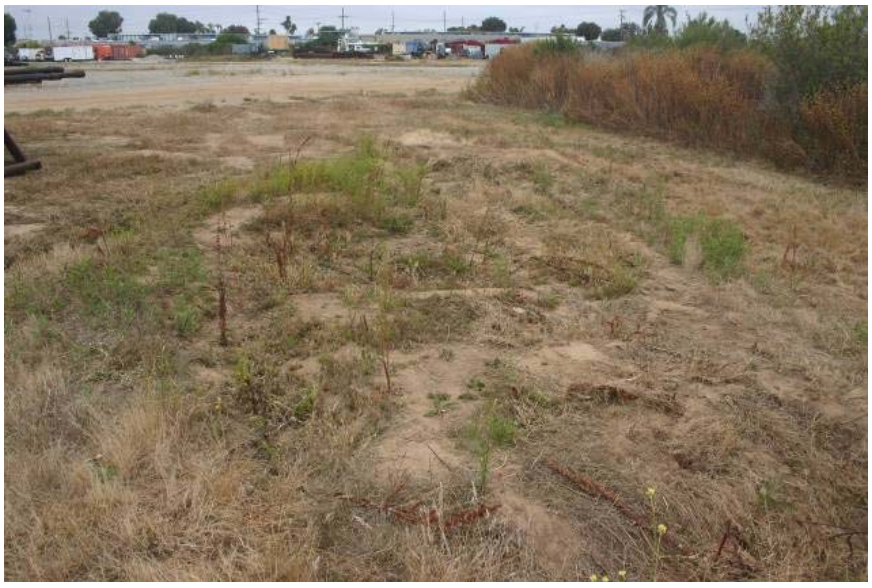

Photo 20. Feature J supporting a predominance of non-native vegetation (GLA).

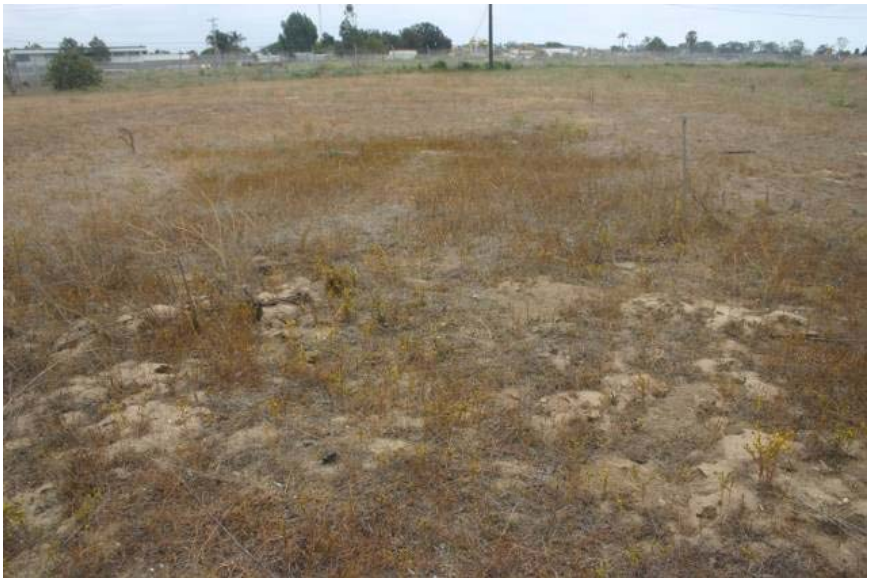

Photo 21. Feature K supporting a predominance of non-native vegetation (GLA).

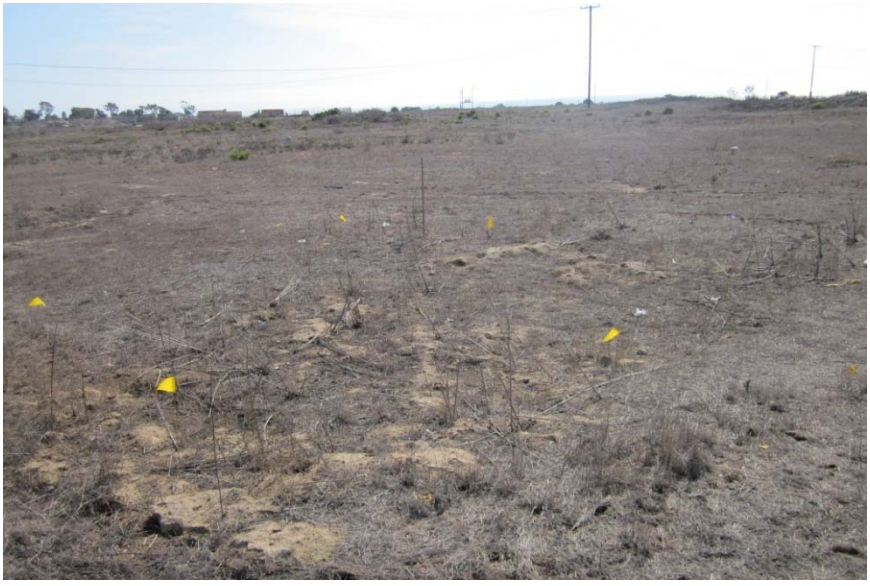

Photo 22. Feature K supporting a predominance of non-native vegetation during November 2012 (Dudek).

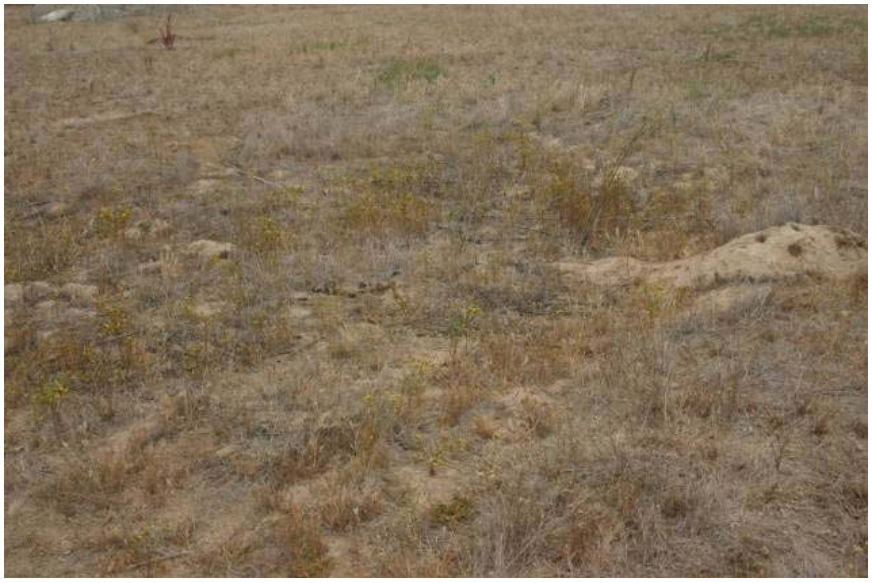

Photo 23. Feature L supporting upland vegetation (GLA).

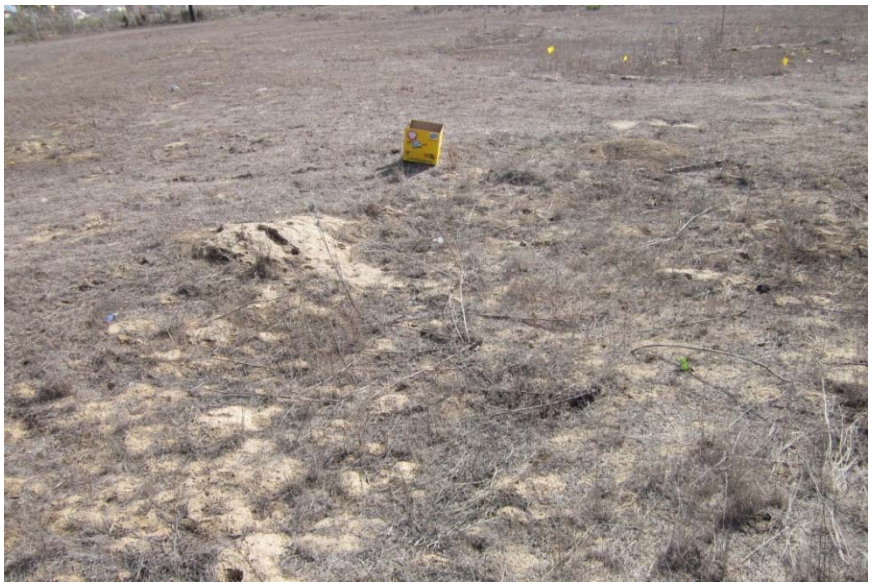

Photo 24. Feature L supporting upland vegetation during November 2012 (Dudek).

Photo 25. Feature M during dry conditions (GLA).

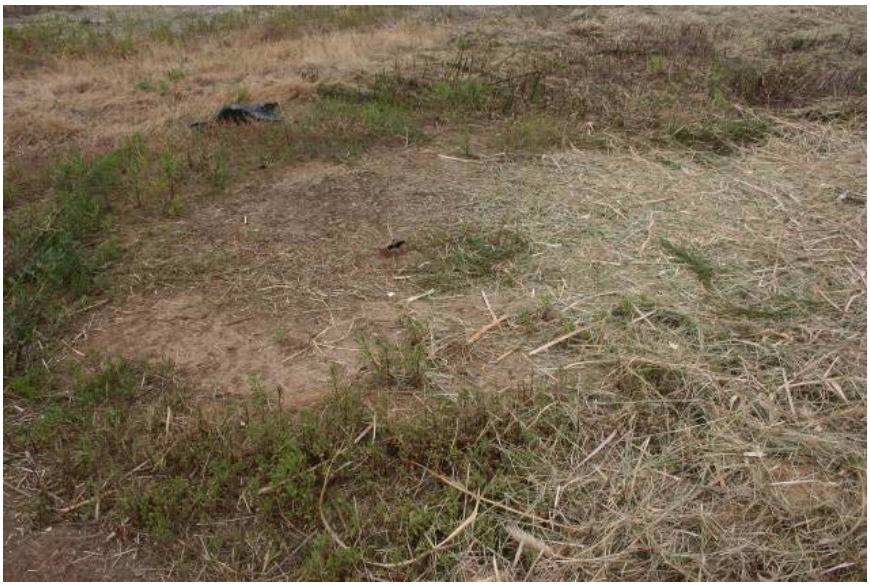

Photo 26. Feature M during dry conditions (GLA).

Photo 27. Feature M during dry conditions in November 2012 (Dudek).

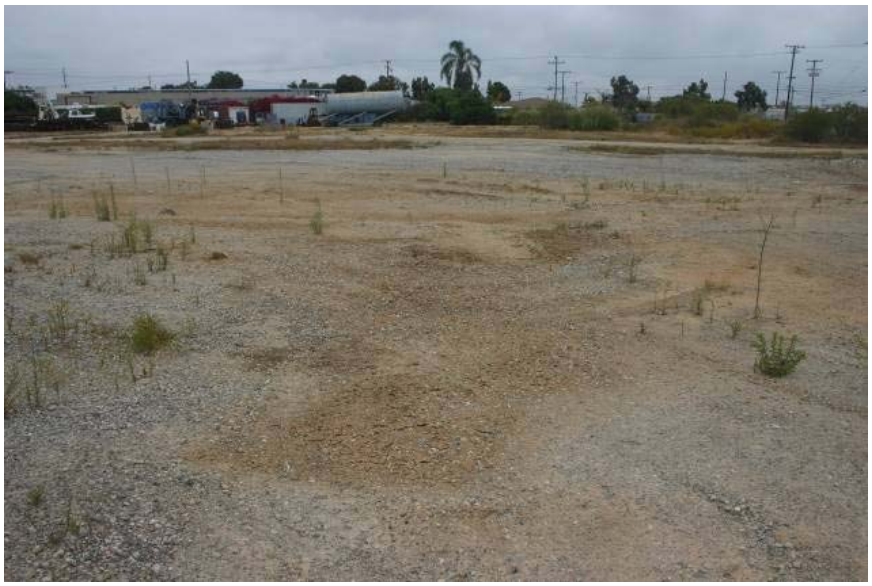

Photo 28. Feature N during dry conditions (GLA).

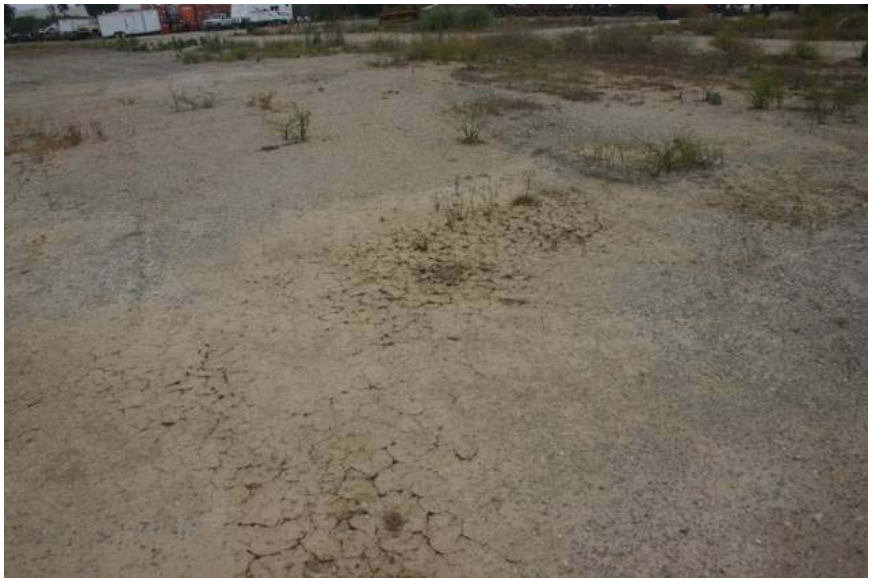

Photo 29. Feature N during dry conditions (GLA).

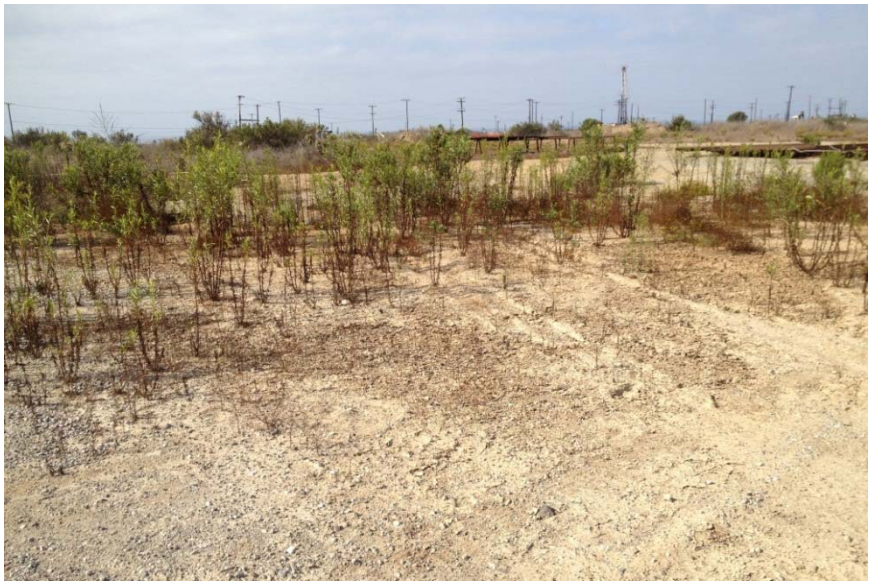

Photo 30. Feature N during dry conditions in November 2012 (Dudek).

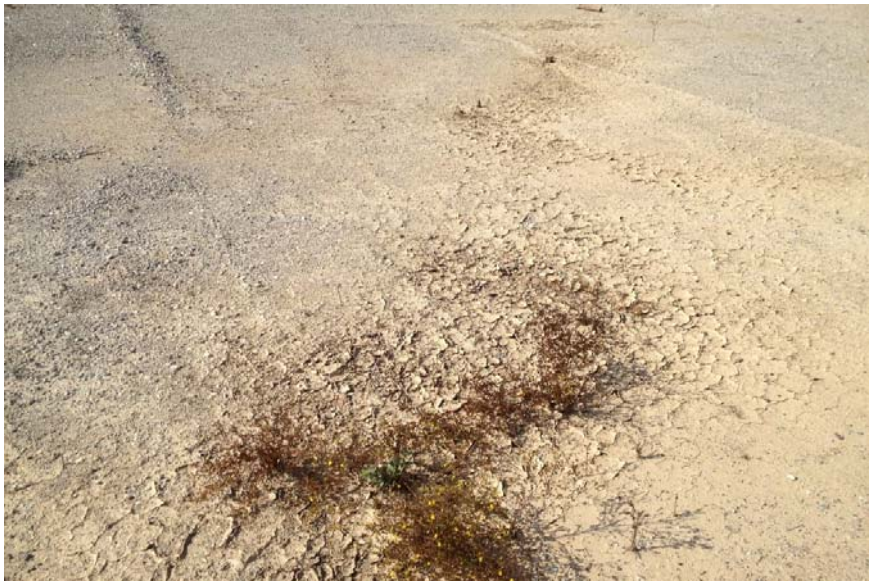

Photo 31. Feature O during dry conditions in November 2012 (Dudek).

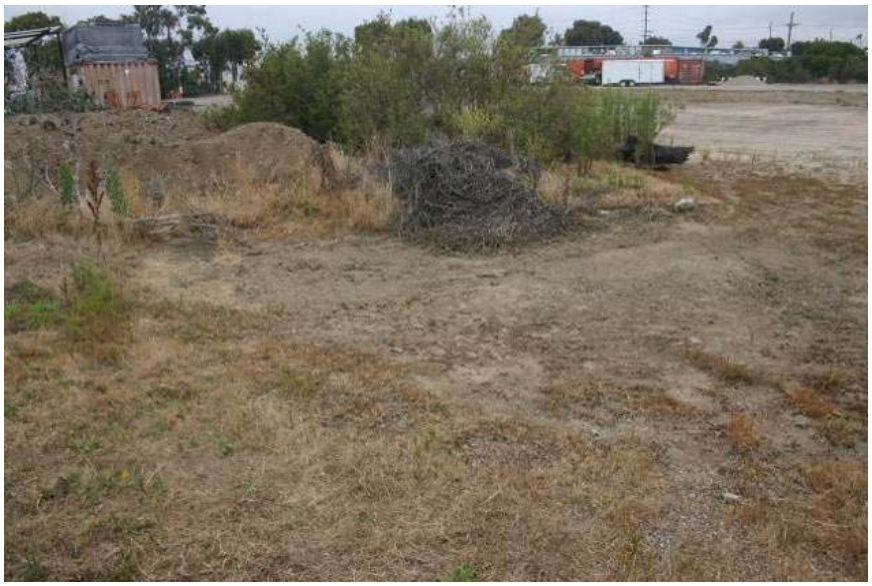

Photo 32. Feature P soil remediation area (GLA).

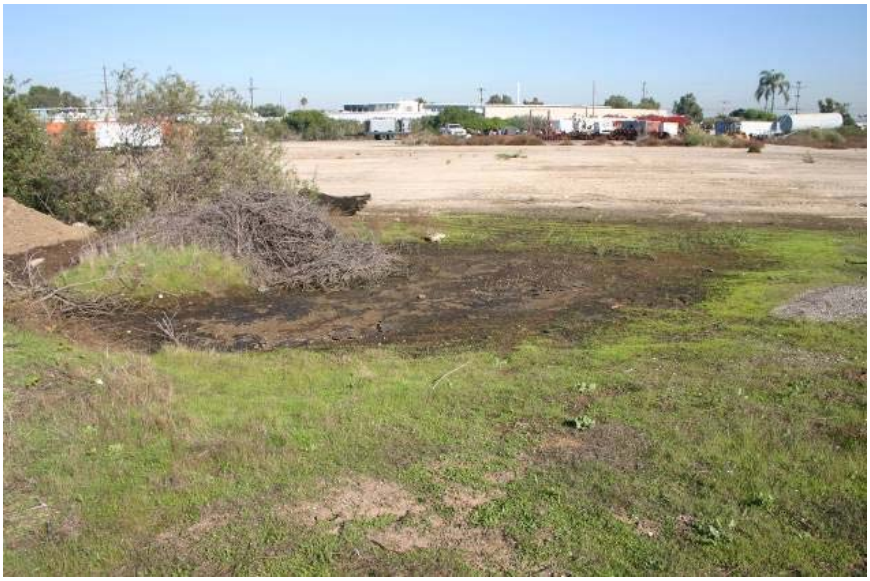

Photo 33. Feature P soil remediation area (GLA).

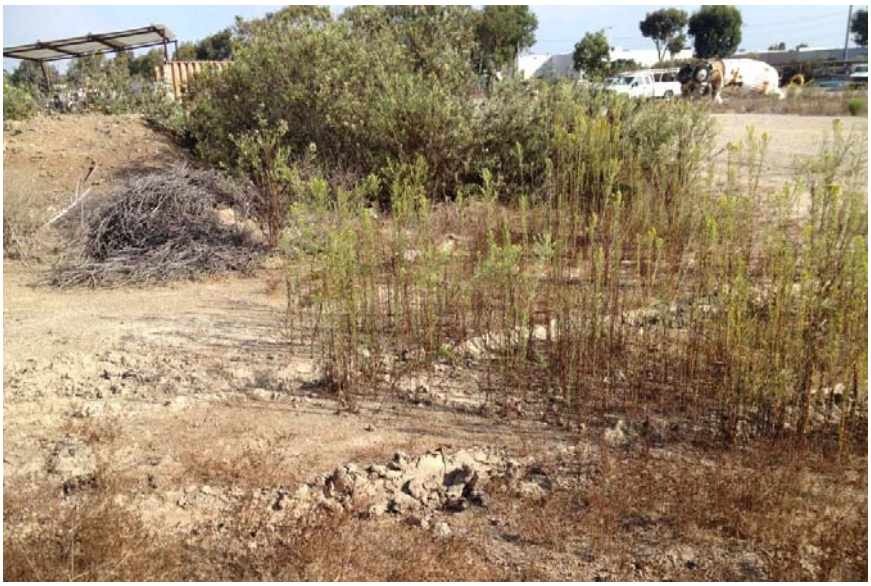

Photo 34. Feature P during dry conditions in November 2012 (Dudek).

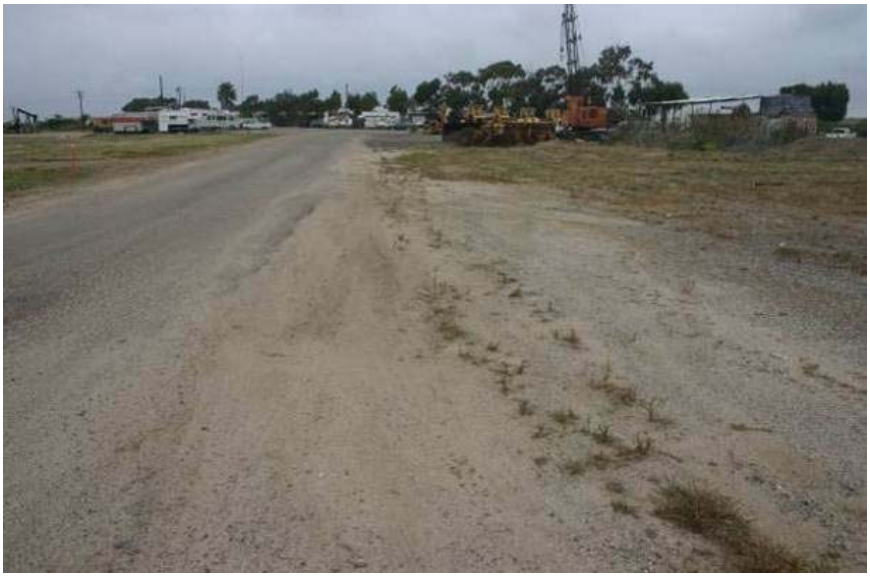

Photo 35. Feature Q in earthen road shoulder during dry conditions (GLA).

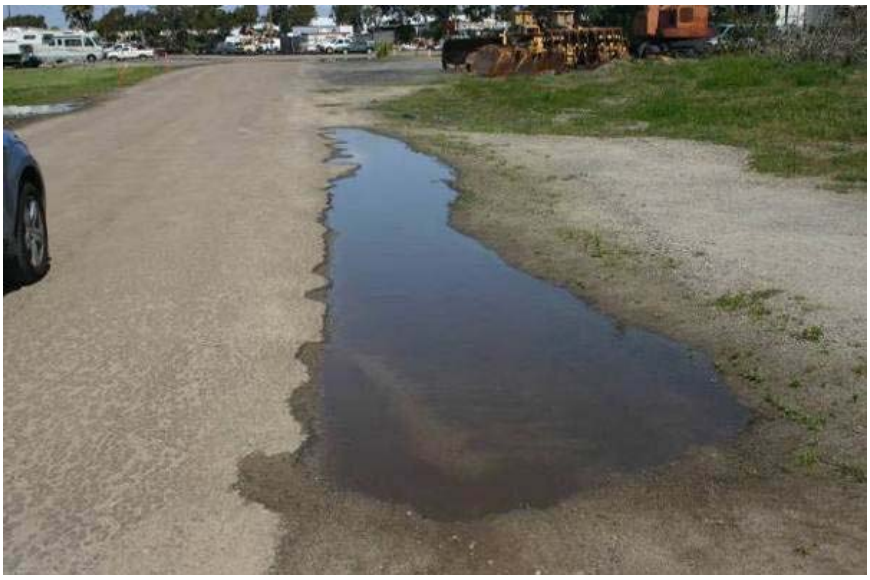

Photo 36. Feature Q in earthen road shoulder during dry conditions (GLA).

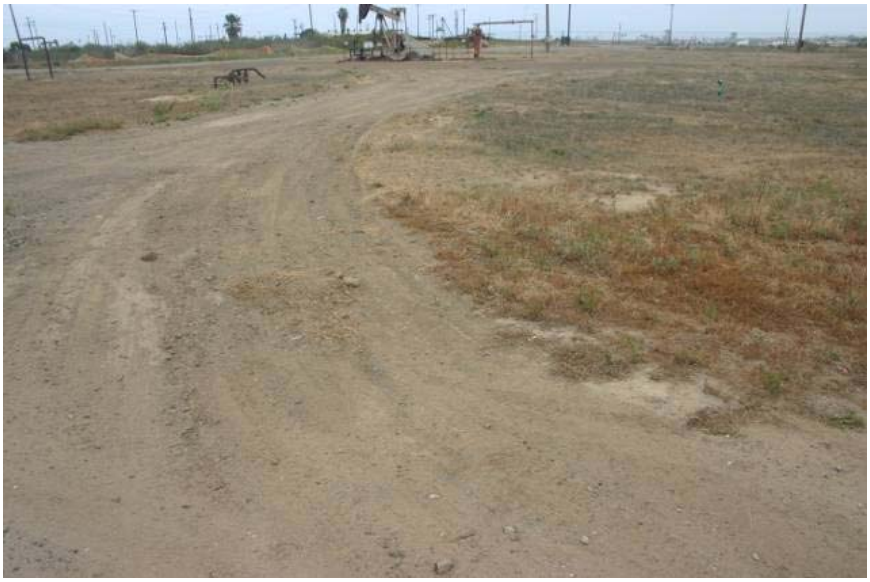

Photo 37. Feature R roadside feature during dry conditions (GLA).

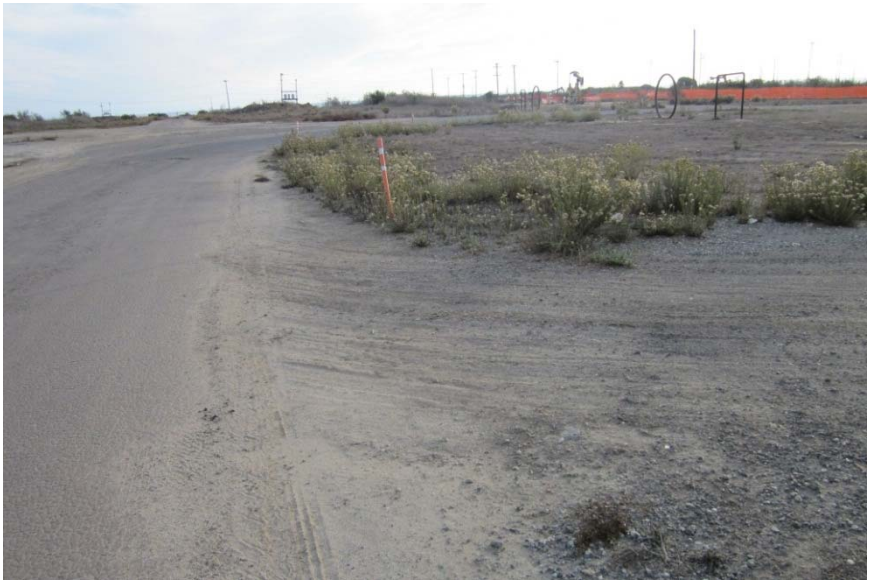

Photo 38. Feature R roadside feature during dry conditions in November 2012 (Dudek).

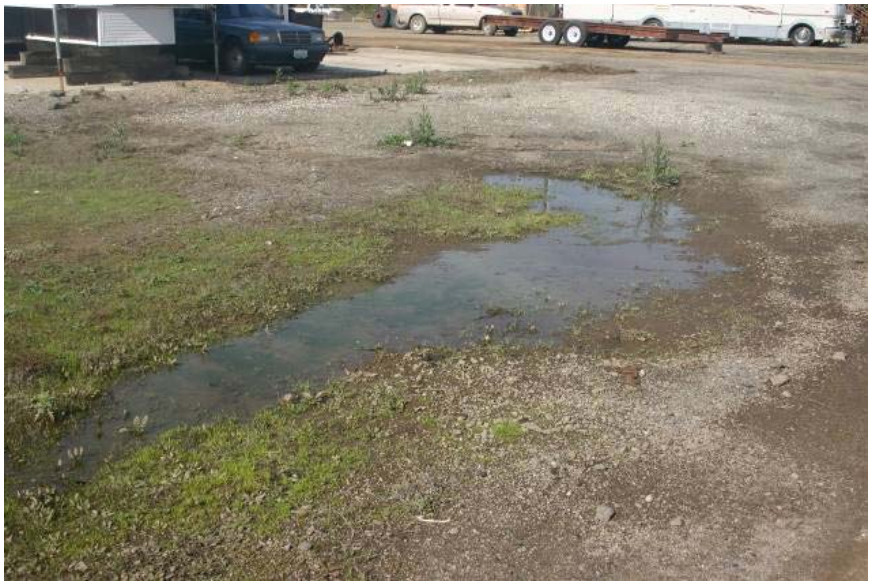

Photo 39. Feature S during wet conditions (GLA).

Photo 40. Feature S during dry conditions (GLA).

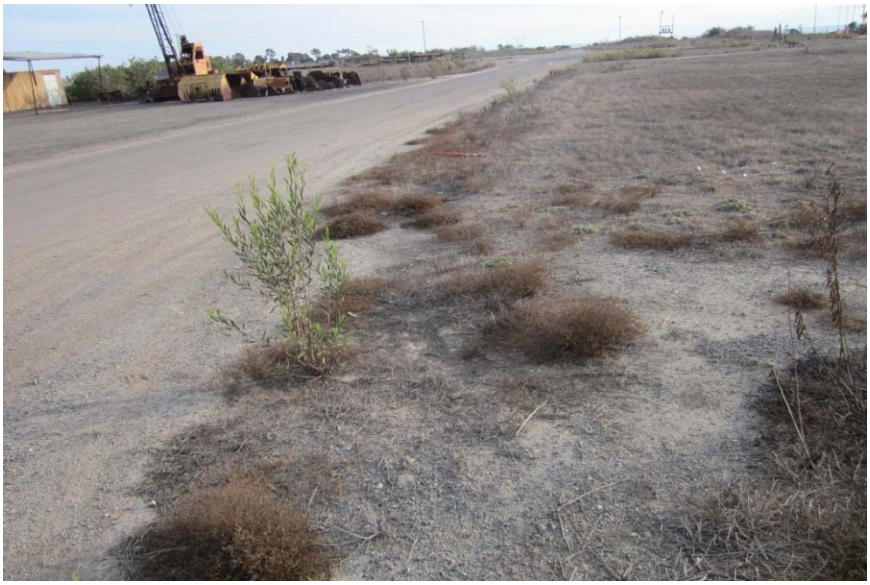

Photo 41. Feature S during dry conditions in November 2012 (Dudek).

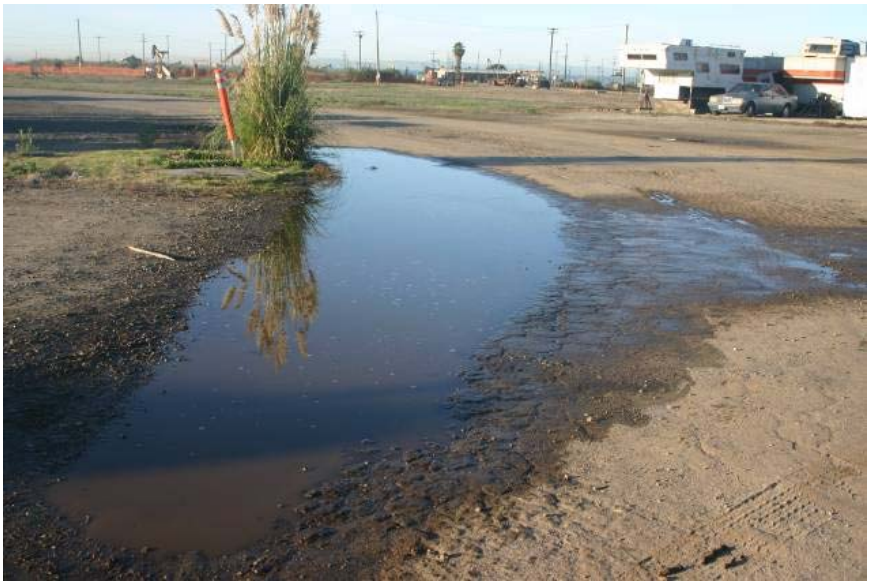

Photo 42. Feature T low area along major access road during wet conditions (GLA).

Photo 43. Feature T low area along major access road during wet conditions (GLA).

Photo 44. Feature U unvegetated asphalt parking area during wet conditions (GLA).

Photo 45. Feature U unvegetated asphalt parking area during dry conditions (GLA).

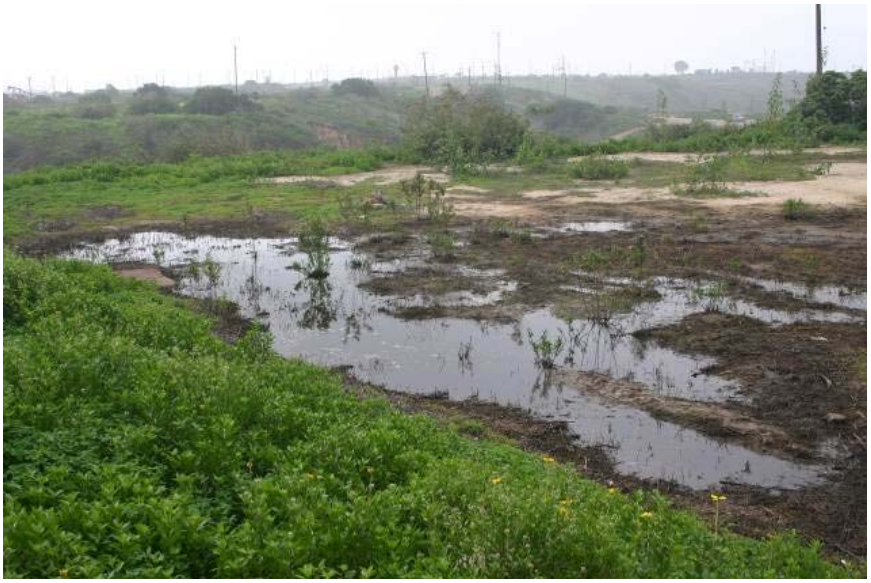

Photo 46. Feature V during wet conditions (GLA).

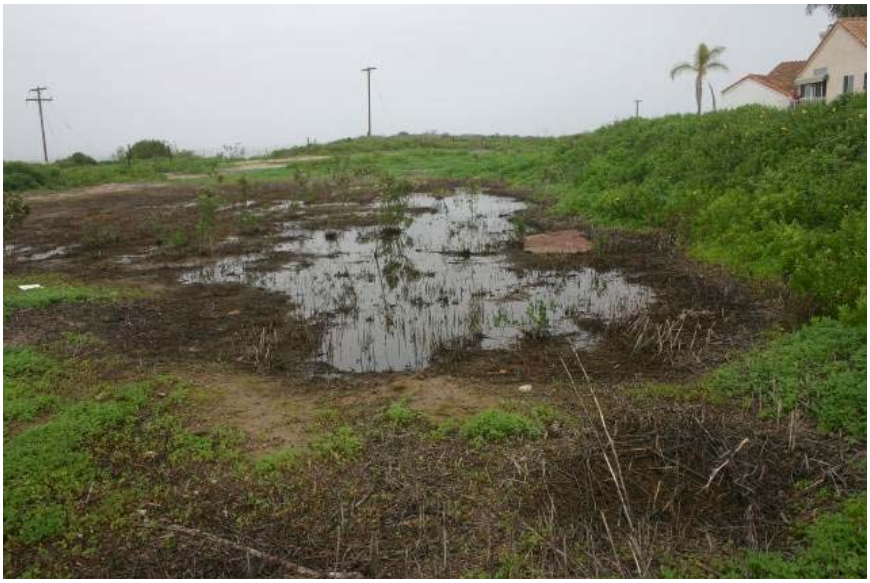

Photo 47. Feature V during wet conditions (GLA).

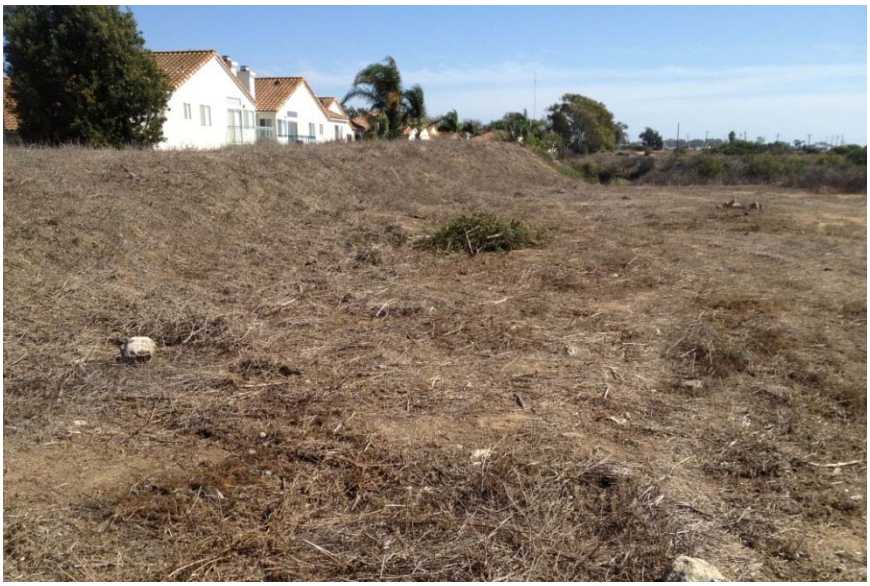

Photo 48. Feature V during dry conditions in October 2012 (Dudek).

Photo 49. Feature W supporting a predominance of non-native vegetation (GLA).

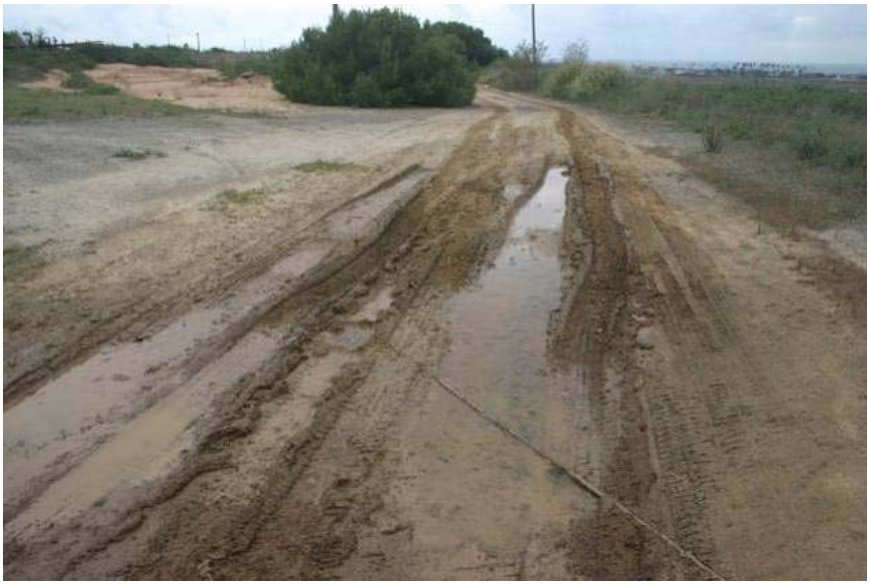

Photo 50. Feature X during wet conditions (GLA).

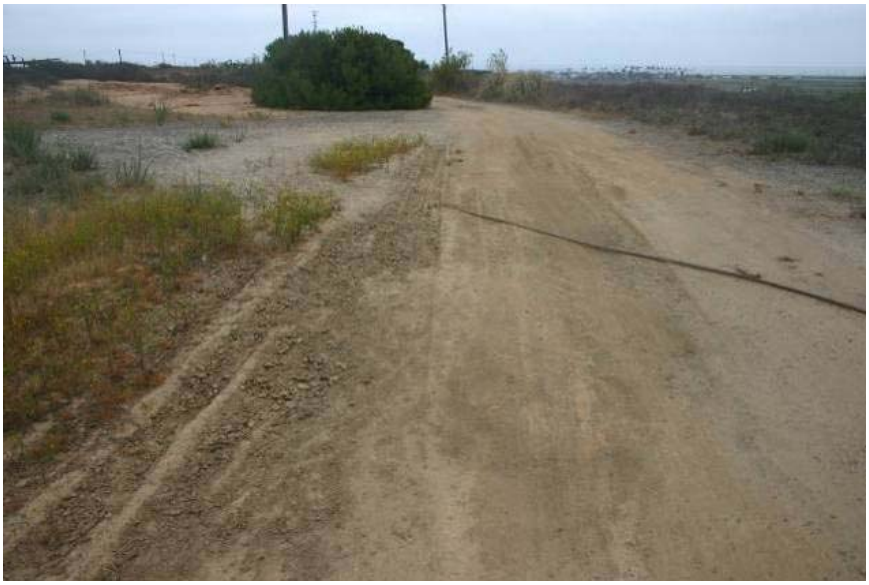

Photo 51. Feature X during dry conditions (GLA).

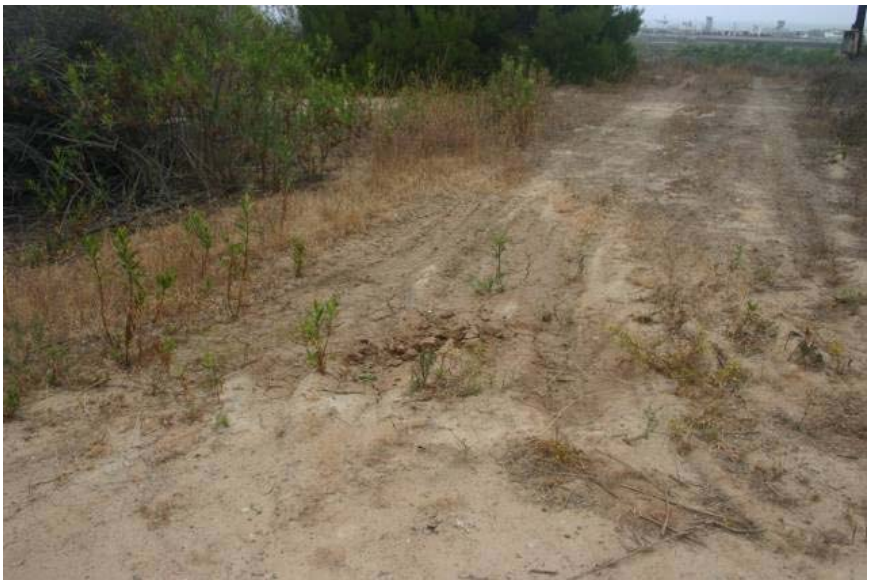

Photo 52. Feature Y during dry conditions (GLA).

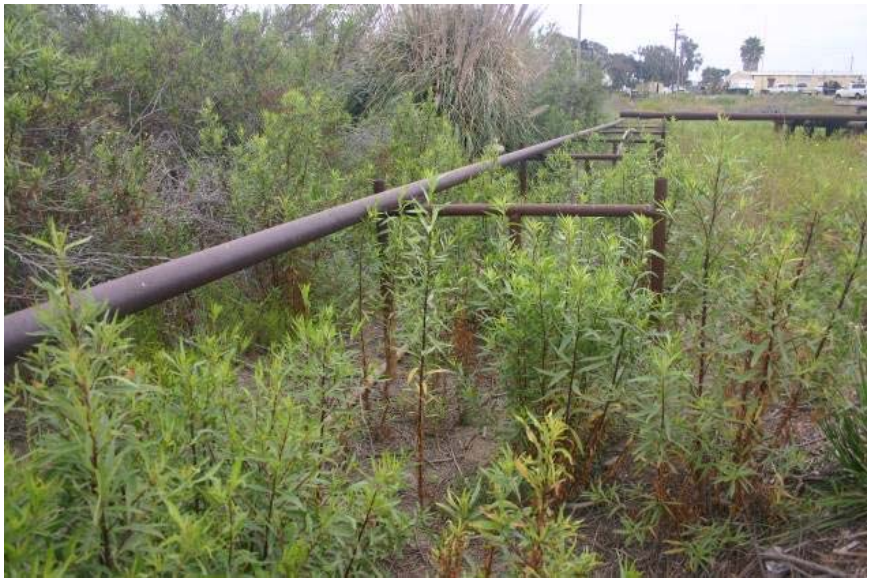

Photo 53. Feature Z during dry conditions (GLA).

Photo 54. Feature Z during dry conditions (GLA).

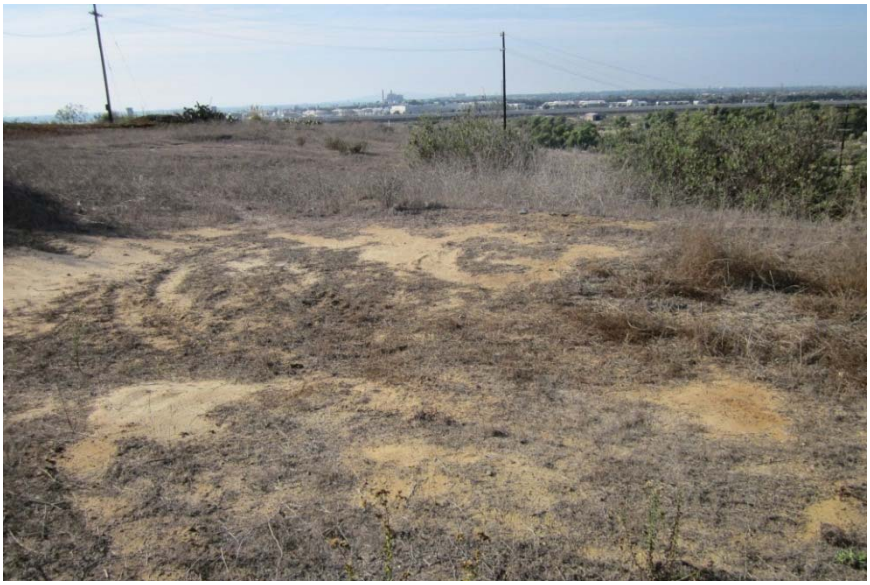

Photo 55. Feature AA during dry conditions in November 2012 (Dudek).

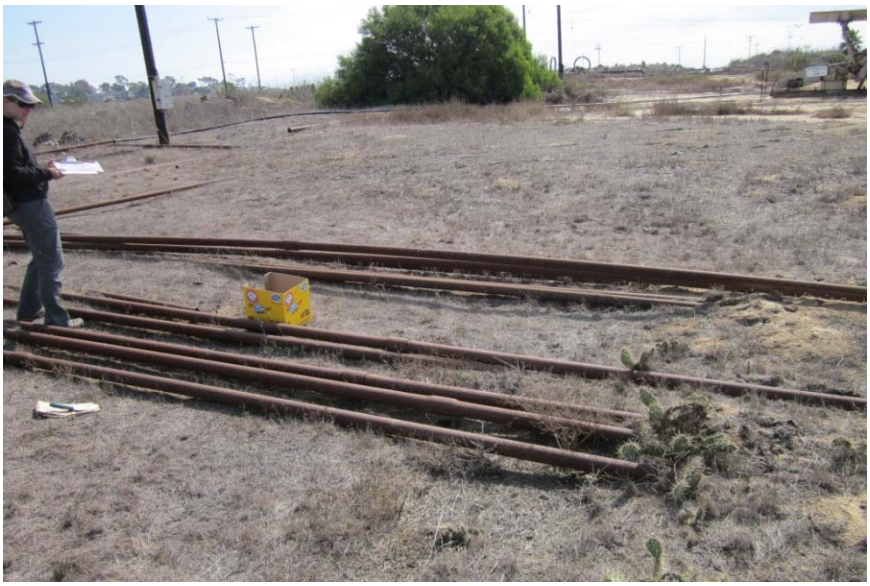

Photo 56. Feature BB during dry conditions in November 2012 (Dudek).

Photo 57. Feature CC during wet conditions (GLA).

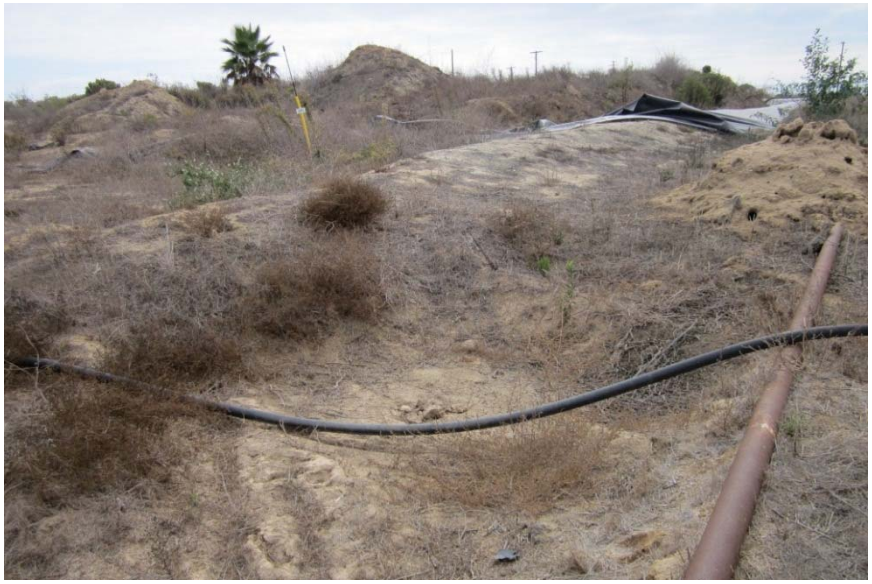

Photo 58. Feature CC during dry conditions in November 2012 (Dudek).

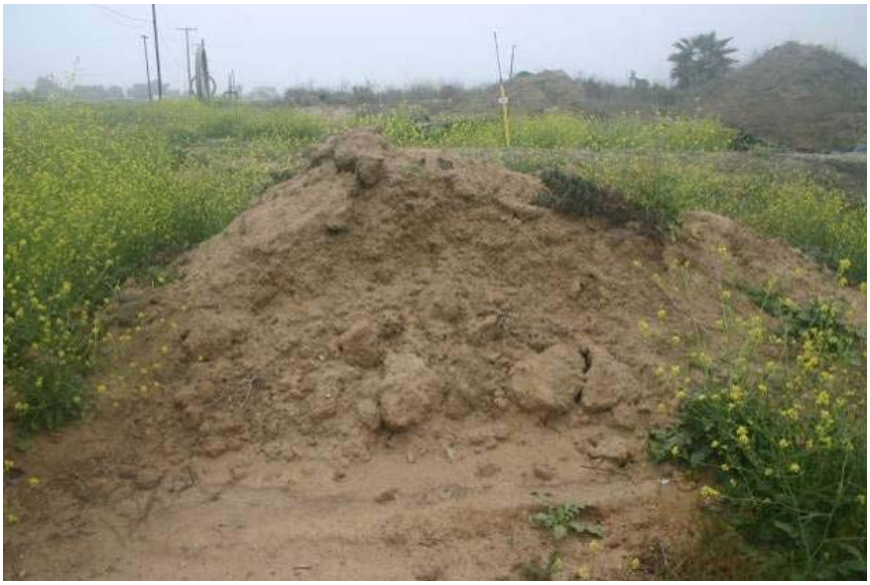

Photo 59. Feature CC depicted as a pit excavated to repair a pipeline (GLA).

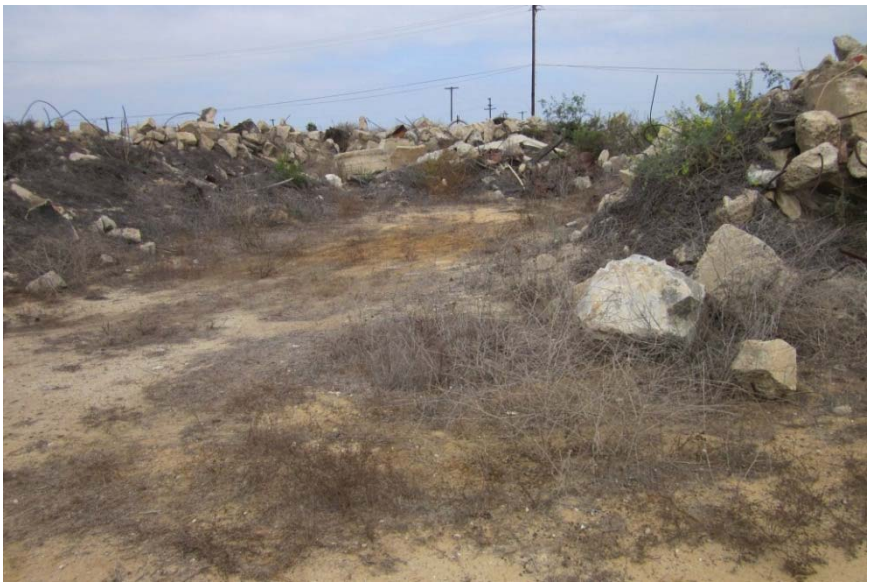

Photo 60. Feature DD during dry conditions in November 2012 (Dudek).

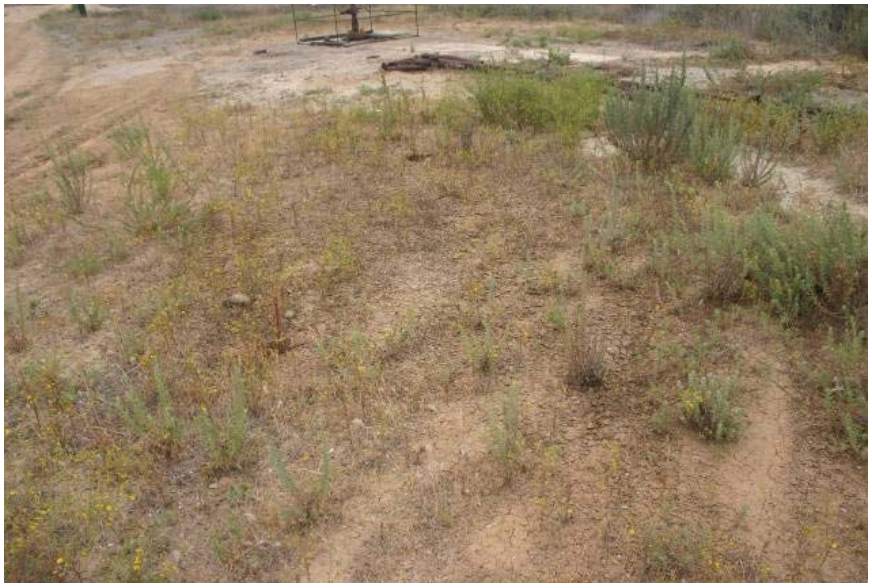

Photo 61. Feature EE within an oil well pad supporting a predominance of upland vegetation (GLA).

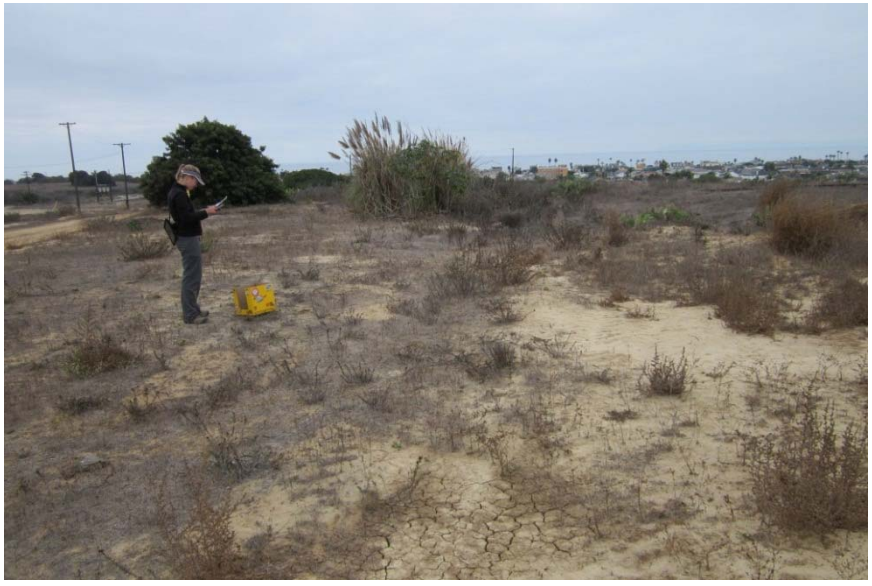

Photo 62. Feature FF during dry conditions in November 2012 (Dudek).

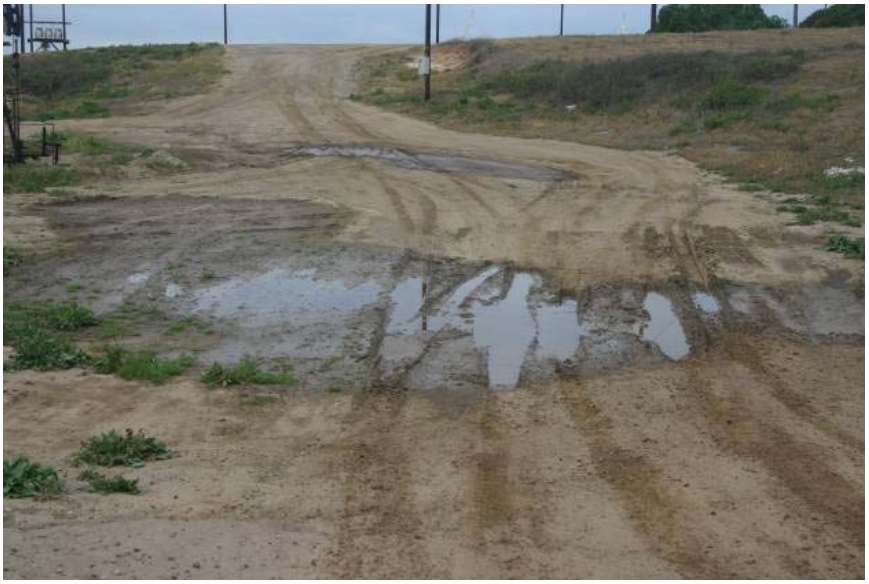

Photo 63. Feature GG during wet conditions (GLA).

Photo 64. Feature GG during wet conditions (GLA).

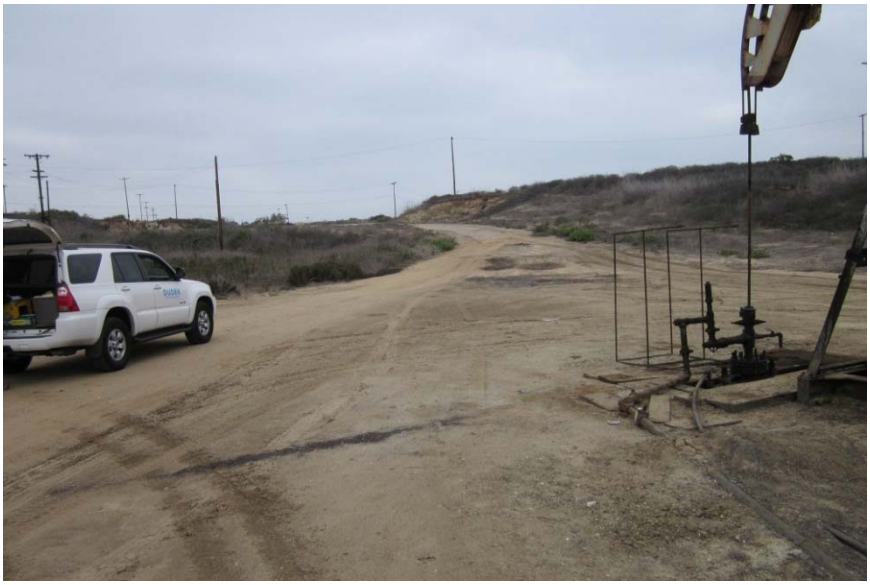

Photo 65. Feature GG during dry conditions in November 2012 (Dudek).

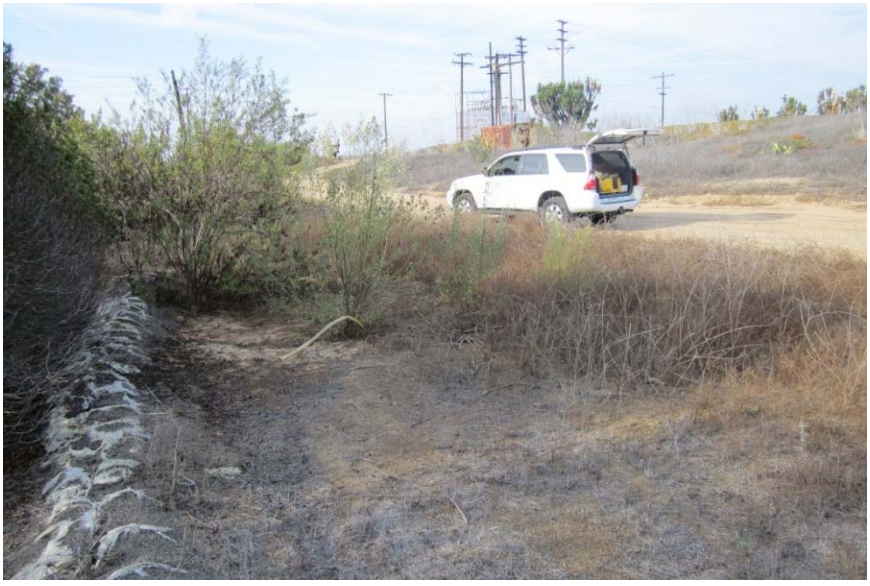

Photo 66. Feature HH during dry conditions in November 2012 (Dudek).

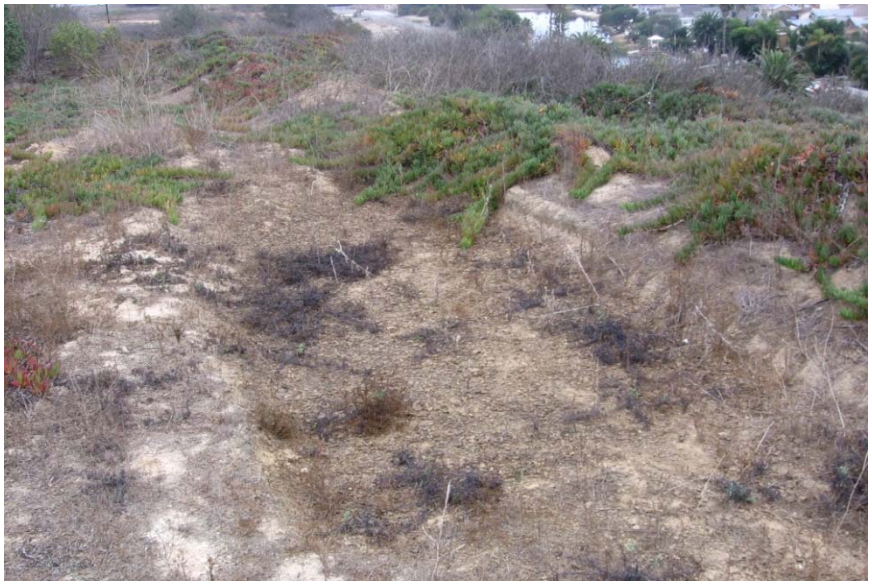

Photo 67. Feature II during dry conditions in November 2012 (Dudek).

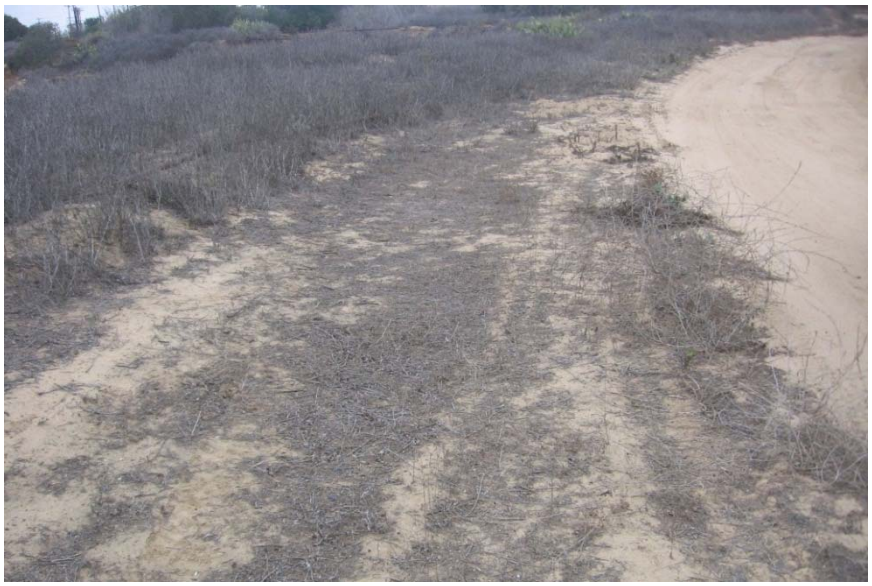

Photo 68. Feature JJ during dry conditions in November 2012 (Dudek).

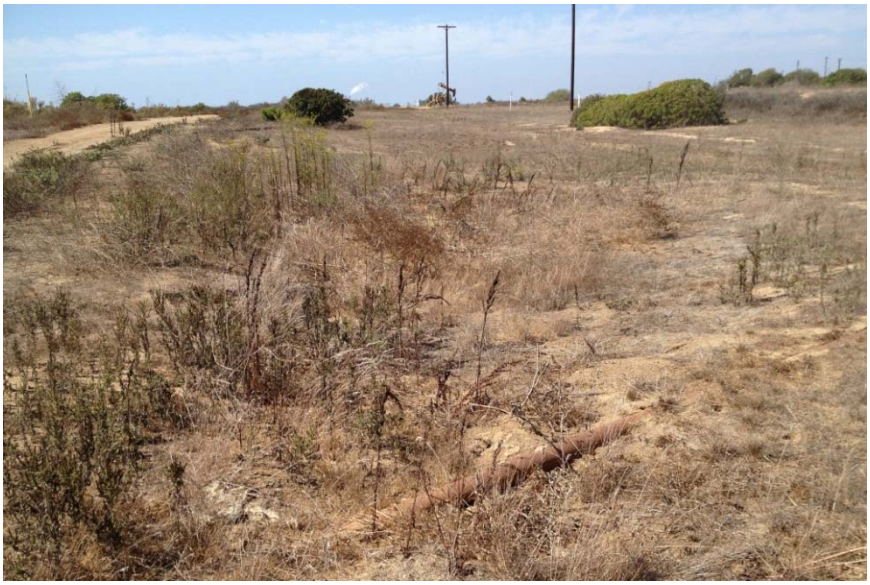

Photo 69. Feature KK during dry conditions in October 2012 (Dudek).

Photo 70. Feature LL during dry conditions in November 2012 (Dudek).

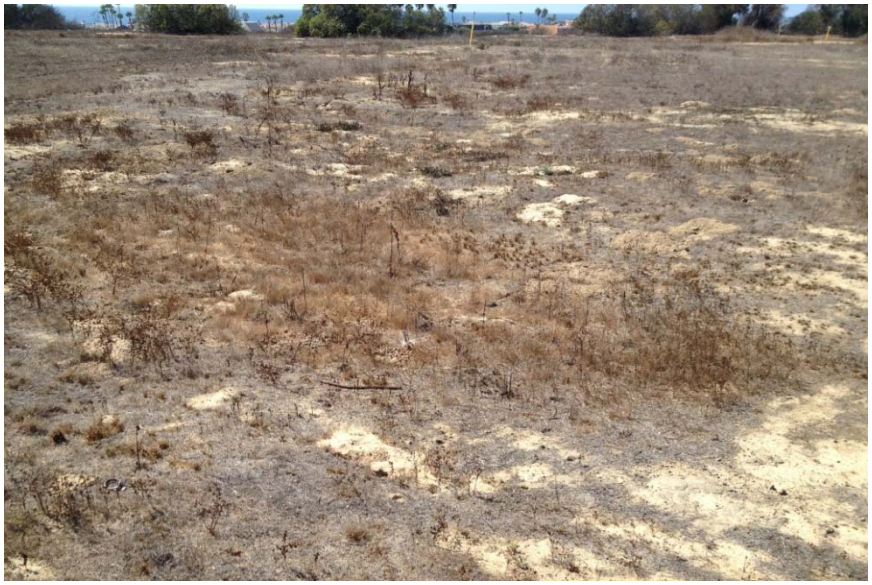

Photo 71. Feature MM during dry conditions in October 2012 (Dudek).

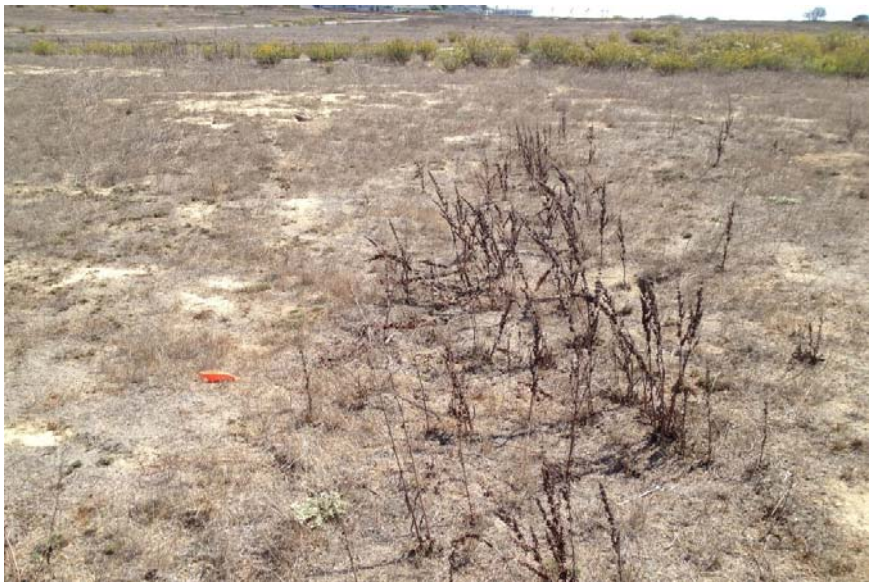

Photo 72. Feature NN during dry conditions in October 2012 (Dudek).

Photo 73. Feature OO during dry conditions in November 2012 (Dudek).

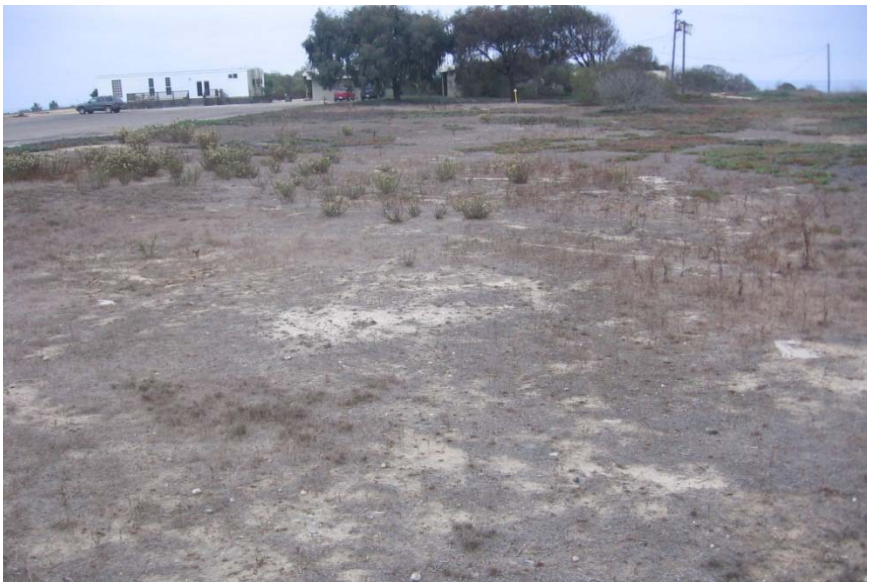

Photo 74. Feature PP during dry conditions in November 2012 (Dudek).

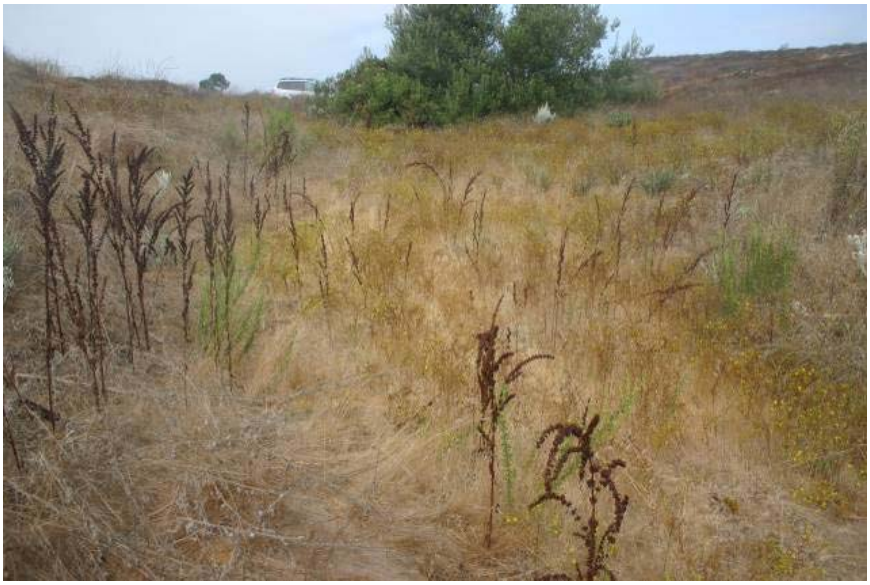

Photo 75. Feature QQ during dry conditions (GLA).

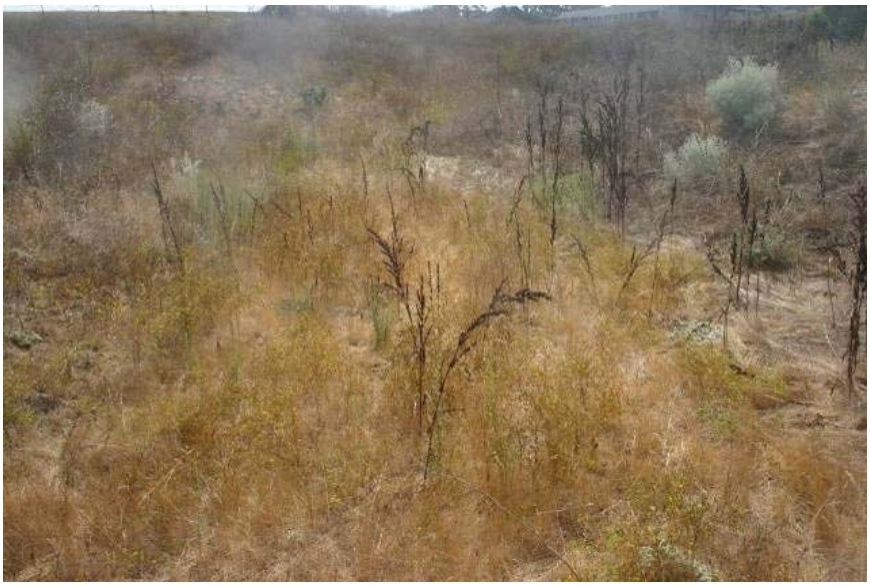

Photo 76. Feature QQ during dry conditions (GLA).

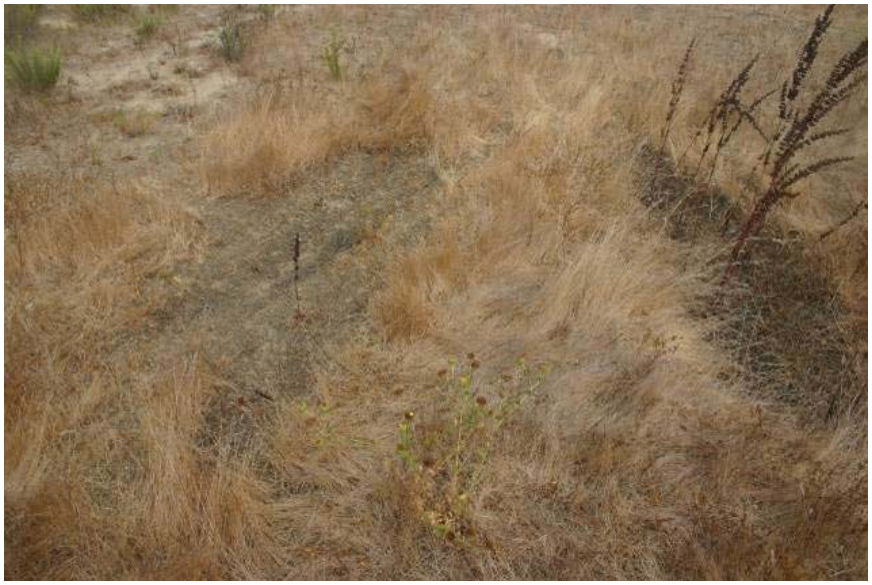

Photo 77. Feature RR during dry conditions (GLA).

Photo 78. Feature SS during dry conditions (GLA).

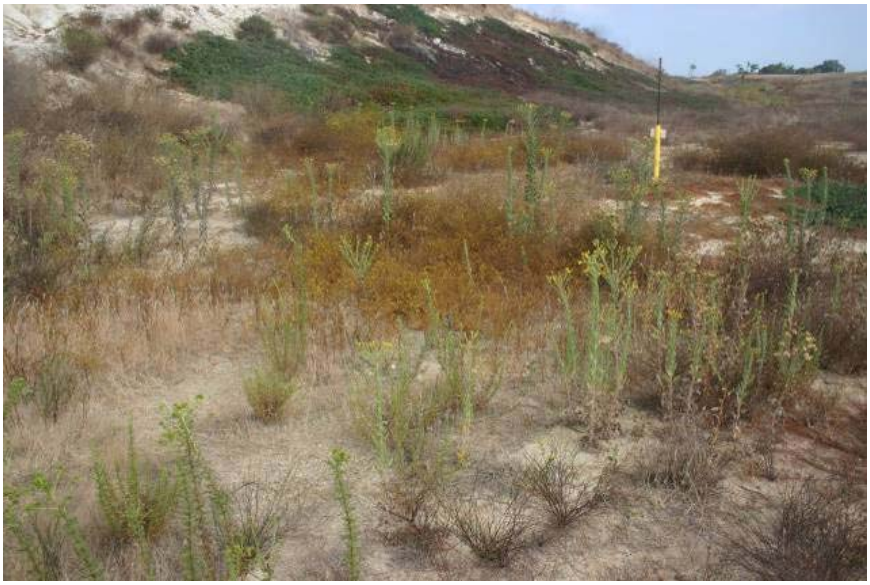

Photo 79. Feature SS during dry conditions (GLA).

Photo 80. Feature TT during dry conditions (GLA).

Photo 81. Feature TT during dry conditions (GLA).

APPENDIX B
Photo Plates

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