Prepared for

Newport Banning Ranch LLC

1300 Quail Street, Suite 100
Newport Beach, California 92660

DRAFT

PHASE I ENVIRONMENTAL SITE ASSESSMENT UPDATE

NEWPORT BANNING RANCH ORANGE COUNTY, CALIFORNIA

Prepared by

Geosyntec consultants

engineers | scientists | innovators

2100 Main Street, Suite 150
Huntington Beach, California 92648
Telephone: (714) 969-0800
Fax (714) 969-0820
www.geosyntec.com

Project Number: HR1018-05

16 April 2008

TABLE OF CONTENTS

Page

1. INTRODUCTION 1
1.1 Terms of Reference 1
1.2 Overview and Purpose 1
1.3 Scope of Work and Limitations 2
1.4 Report Organization 3

2. SITE AND VICINITY DESCRIPTION 5
2.1 General 5
2.2 Site Location 5
2.3 Topography 5
2.4 Geology and Hydrogeology 6
2.4.1 Geology 6
2.4.2 Hydrogeology 7
2.5 Past and Current Uses of the Site 8
2.6 Past and Current Uses of the Vicinity 9
2.7 Site Facilities and Description 11

3. RECORDS REVIEW 13
3.1 Record Review Approach 13
3.2 Site 13
3.2.1 Database Records Review 13
3.2.2 Preliminary Assessment of Potential Vapor Intrusion Conditions 16
3.2.3 Document Review 17
3.2.4 Aerial Photograph Review 17
3.2.5 Topographic Map Review 18
3.2.6 Sanborn Map Review 20
3.3 Site Vicinity 20
3.3.1 Database Records Review and Document Review 20
3.3.1.1 California Exploration Company 21
3.3.1.2 Newport Terrace Landfill 21
3.3.1.3 Grand Plan – Eaton / Nexus 21
3.3.1.4 Hughes Aircraft Company / Future Newport Health Care Facility 22

TABLE OF CONTENTS (continued)

Page

3.3.2 Preliminary Assessment of Potential Vapor Intrusion Conditions 22
3.3.3 Aerial Photograph Review 23
3.4 Data Evaluation 24

4. SITE RECONNAISSANCE AND INTERVIEWS 26
4.1 Approach 26
4.2 Data Evaluation 26

5. SUMMARY OF FINDINGS AND OPINIONS 30
5.1 General 30
5.2 RECs 30
5.3 Historical RECs 30
5.4 De Minimis Environmental Conditions 31
5.5 pVICs 31
5.6 Other Issues of Concern 32

6. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS 33

7. SIGNATURE AND QUALIFICATIONS 35

REFERENCES

TABLE OF CONTENTS (continued)

LIST OF TABLES

Table 1-1 Detailed Scope Element per ASTM E 1527-05

Table 3-1 Environmental Studies (1986-2005)

Table 3-2 Identified Off-Site Facilities from EDR Database

Table 3-3 Potential Recognized Environmental Conditions

Table 4-1 Hazardous Substances and Petroleum Hydrocarbons Currently or Historically Used at the Newport Banning Ranch

LIST OF FIGURES

Figure 1-1 Site Location Map

Figure 2-1 Site Map

Figure 2-2 Future Land Use Plan

Figure 5-1 REC Locations and Site Reconnaissance Photographs

Figure 5-2 Oil Well Locations

LIST OF APPENDICES

Appendix A: EDR Database Records Review Report

Appendix B: Historical Aerial Photographs

Appendix C: Historical Topographic Maps

TABLE OF CONTENTS (continued)

Appendix D: Environmental Reports Review Summary

Appendix E: Information Regarding RECs

Appendix F: Site Reconnaissance Photographic Documentation

Appendix G: Personnel Interviews – Questionnaires

Appendix H: Material Data Safety Sheets

Appendix I: Preparer's Qualifications

Appendix J: Letters

1. INTRODUCTION

1.1 Terms of Reference

This Report documents the Phase I Environmental Site Assessment (ESA) Update (hereafter referred to as Report) performed by Geosyntec Consultants (Geosyntec) for the Newport Banning Ranch property located in Orange County, California (the Site). The most recent previous Phase I ESA was performed for the Site by Geosyntec in December 2005 [Geosyntec, 2005a]. This Report was prepared by Geosyntec for the sole use of its client, Newport Banning Ranch LLC (NBR LLC), for the purposes of assessing environmental conditions at the Site and evaluating Site activities from 2005 through the present. This Report was prepared by Mr. Ryan Wohlstrom, E.I.T., and Mr. Adam King, E.I.T., of Geosyntec and was reviewed by Mr. Eric Smalstig, P.E., also of Geosyntec, in accordance with the peer review policy of the firm. Resumes for these individuals are included in Appendix I.

1.2 Overview and Purpose

The Site is approximately 400 acres (162 ha) in extent and is located east of the mouth of the Santa Ana River near the Huntington Beach – Newport Beach city boundary in Orange County, California. A map showing the location of the Site is presented in Figure 1-1. The Site is currently operated as a crude oil and gas production facility. The Site oil and gas production operations are being managed by Horizontal Drilling, LLC (HDLLC, formerly West Newport Oil Company). The Site is owned by a joint partnership including NBR LLC and Cherokee Investment Partners, LLC.

The purpose of this Report is to identify, to the extent feasible pursuant to the processes described in American Society Testing and Materials (ASTM) Standard E 1527-05, *Standard Practice for Environmental Assessments: Phase I Environmental Site Assessment Process*, recognized environmental conditions (RECs) in connection with the Site. In November 2006, the U.S. Environmental Protection Agency (EPA) issued regulations establishing new standards for the conduct of "all appropriate inquiries" (AAI), as defined under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). These AAI standards codified for the first time, specific tasks and approaches for conducting environmental due diligence (i.e., AAI or Phase I ESAs). The AAI standards are included in ASTM Standard E 1527-05 and this Report

is intended to provide NBR LLC with an update of the previous (December 2005) Site Phase I ESA to assist in meeting certain requirements of EPA's AAI rule.

1.3 Scope of Work and Limitations

Geosyntec completed this Report in general conformance with the scope and limitations of the ASTM Standard E 1527-05, *Standard Practice for Environmental Assessments: Phase I Environmental Site Assessment Process*. This Report was prepared in accordance with the scope of work, terms, and conditions described in Geosyntec's proposal dated 7 February 2008. A listing of the ASTM Standard E 1527-05 elements included and excluded from the scope of work is presented in Table 1-1. The work performed as part of the Report included:

- historical Site usage review;
- records review;
- Site reconnaissance; and
- interviews.

A description of these activities and a presentation and analysis of the data collected are presented in the remaining sections of this Report.

The work described in this Report updates, and incorporates by reference, information contained in the Phase I ESA reports prepared by Geosyntec in 1993, 1999, and 2005 [Geosyntec, 1993a, 1999, 2005a]. The conclusions contained in this Report are based solely on the analysis of the conditions as observed by Geosyntec personnel and as reported by regulatory agencies and other named sources at the time the Phase I ESA Update process was performed. This Report is not, nor should it be construed as, a regulatory compliance audit. Air emissions and air quality at the Site are not included in the definition of RECs, and therefore, are not addressed in this Report.

Geosyntec reporting and documentation with respect to the Site reconnaissance are based on observations of the Site conditions on 12 March 2008. During the Site reconnaissance, Geosyntec attempted to visit each area of the Site where existing Site records indicated that there are currently, or have been in the past, structures and facilities related to oil and gas production. However, because the Site covers approximately 400 acres (162 ha), some of the oil well and pipeline locations in remote

areas of the Site were not visited. In addition, many areas of the Site which consist of dense brush and marsh were not accessible and, therefore, could not be visited.

No warranty, expressed or implied, is made regarding the professional opinions expressed in this Report or concerning the completeness of the data presented to us. If actual conditions are found to differ from those described in this Report, or if new information regarding the Site is obtained, Geosyntec should be notified and additional recommendations, if required, will be provided. Geosyntec is not liable for any use of the information contained in this Report by persons or parties other than NBR LLC.

1.4 Report Organization

The remainder of this report is organized into the following sections:

- Section 2, *Site and Vicinity Description*, provides details of the Site location, characteristics, and background information on the regional geology and hydrogeology and surrounding land use;

- Section 3, *Records Review*, presents the results of environmental database searches, a review of engineering reports on the Site, and a review of historical aerial photographs;

- Section 4, *Site Reconnaissance and Interviews*, presents a summary of environmental conditions observed during a Site reconnaissance and based upon information provided by Site personnel during interviews;

- Section 5, *Summary of Findings and Opinions*, presents the findings and opinions of the Phase I ESA based on the results of the Records Review, Site reconnaissance, and interviews;

- Section 6, *Summary*, *Conclusions, and Recommendations*, presents conclusions and recommendations based upon the findings of the Report; and

- Section 7, *Signature and Qualifications*, presents the qualifications and signature of the environmental professional who prepared this Report.

References (to be reconciled for final draft), tables, figures, and appendices are included at the end of this Report.

2. SITE AND VICINITY DESCRIPTION

2.1 General

This section provides general information regarding the Site, including:

- location;
- topography;
- geology and hydrogeology.
- past and current uses of the Site;
- past and current uses of the Site vicinity; and
- Site facilities and descriptions.

The information presented in this section was developed based on: (i) work conducted by consultants at the Site since 1986; (ii) conversations with representatives of the Site owner and operator; (iii) reports of work conducted by the United States Army Corps of Engineers (USCOE) at nearby locations [USCOE, 1988]; and (iv) data collected from governmental agencies pertaining to this area of Orange County. A list of documents used by Geosyntec to prepare the information presented in this section is included in the Reference section of this Report.

2.2 Site Location

The Site is located east of the mouth of the Santa Ana River near the Huntington Beach – Newport Beach city boundary in Orange County, California. The location of the Site, which encompasses approximately 400 acres (162 ha), is shown in Figure 1-1. The Site is currently operated as a crude oil and gas production facility by HDLLC.

2.3 Topography

The topographic relief across the Site is approximately 105 ft (32 m). A bluff subdivides the Site into two zones: the lowland river mouth zone and the upland Newport Mesa zone, as shown in Figure 2-1. For purposes of this Report, these zones are referred to as the lowland and upland zones.

The elevation of the lowland zone ranges from 0 to 10 ft (1 to 3 m) above mean sea level. The lowland zone consists of a relatively flat, undulating surface. The lowland zone is bounded to the east by the uplands zone. The elevation of the upland zone at the Site ranges from 10 to 105 ft (3 to 32 m) above mean sea level. The westerly-dipping slopes of the upland zone slopes vary from approximately 10 to 65 percent. The southern section of the upland zone (along the Pacific Coast Highway) is characterized by a gradual change of elevation. The southwesterly-dipping slopes in this section of the upland zone range from approximately 2 to 20 percent. The slope of the mesa area of the upland zone dips in a generally west-southwesterly direction at approximately 1 to 3 percent.

The western boundary of the Santa Ana River Marsh (River Marsh), adjoining the lowlands (Figure 1-1), is lined with levees constructed as part of the USCOE Santa Ana River Flood Control Project. From 19th Street to the Pacific Ocean, levee heights in the River Marsh vary from 10 to 15 ft (3 to 4.5 m) above the surrounding grade.

2.4 Geology and Hydrogeology

2.4.1 Geology

The Site is located within the Orange County Coastal Plain, one of the coastal alluvial basins of the Los Angeles Sedimentary Basin. The Orange County Coastal Plain is bounded to the north by the Puente Hills, to the east by the Santa Ana Mountains, to the west by the San Gabriel River, and to the southwest by the San Joaquin Hills and the Pacific Ocean. The central portion of the coastal plain forms the broad alluvial floodplain of the Santa Ana River. The Santa Ana River originates in the San Bernardino Mountains. The river flows approximately 80 miles (130 km) from the San Bernardino Mountains to the Site where it discharges into the Pacific Ocean.

The stratigraphy of the Orange County Coastal Plain consists of recent alluvial deposits overlying older sediments and bedrock. The Santa Ana River has eroded a channel across the alluvial deposits of the Orange County Coastal Plain and through the consolidated mesa sediments forming the 2.5-mile (4.2-km) wide Santa Ana Gap. This gap, a typical feature of Orange County, is located between the Huntington Beach Mesa and the Newport Beach Mesa. The Newport-Inglewood fault zone runs through the

southern portion of the Site, trending in a direction parallel to the Pacific Coast Highway [Earth Technology, 1986].

Part of the Newport Mesa forms the eastern, upland portion of the Site. The mesa consists of consolidated alluvial sediments which have been uplifted along the fault zone. The lowland portion of the Site consists of recent alluvial sediments. These alluvium sediments consist of fine to coarse sand, with fine silty sands, clayey silt, and silty clay. The alluvial sediments are underlain by older terrace and alluvial deposits. The bedrock formation consists of complex crystalline metamorphic and igneous rocks [California Department of Water Resources (CDWR), 1967]. Detailed information regarding the type of soil encountered at the Site can be found in the log of trenches excavated and borings drilled at the Site (see the reports referenced in this Report), including the report of geotechnical studies recently completed by Goffman, McCormick, & Urban [GMU, 2008 – GMU to provide reference].

2.4.2 Hydrogeology

The Site is located within the Orange County Groundwater Basin. The Newport-Inglewood fault zone, located along the southern boundary of the Site, is the predominant hydrogeologic feature in the area, acting as a barrier to groundwater flow in the aquifers below the uppermost water-bearing units [CDWR, 1967]. The water-bearing formations in the Orange County Groundwater Basin are composed of three intra-connected confined aquifer systems: the Lower, Middle, and Upper aquifer systems [CDWR, 1967].

The Lower Aquifer system consists of a series of hydraulically interconnected aquifers overlying the non-water-bearing formations of consolidated sedimentary and basement rock.

The Middle Aquifer system consists of a series of aquifers mostly of the water-bearing San Pedro Formation. The predominant aquifer within the Middle Aquifer system (and the primary source of groundwater for Orange County) is the Main Aquifer. The Main Aquifer consists of coarse sand and gravel, with interbedded layers of finer deposits. Groundwater studies of the Santa Ana Gap have concentrated on the hydrogeologic conditions of the Middle Aquifer system, specifically the Main Aquifer, because it is the primary source of domestic water in the area. Groundwater studies conducted in

November 1990 by the CDWR indicate that the piezometric surface of the groundwater in the confined Main Aquifer below the Santa Ana Gap ranges from 0 to 10 ft (0 to 3 m) below mean sea level.

The Upper Aquifer system consists of discontinuous lenses of coarse sand and gravel confined by lenses of clay sediments. The uppermost aquifer within the Upper Aquifer system is the Talbert Aquifer. Layers of fine-grained material exist above the Talbert Aquifer, resulting in perched or semi-perched water overlying the largely confined Talbert Aquifer. These perched aquifers serve as recharge sources through the local confining layers. The Talbert Aquifer acts as an unconfined aquifer in certain locations where the confining layer is absent or where the piezometric surface is below the base of the confining layer [CDWR, 1967].

The Site is hydraulically bounded to the west by the mouth of the Santa Ana River and to the south by marsh channels. The marsh channels are connected by a culvert to the mouth of the Santa Ana River. As water in the Santa Ana River mouth and marsh channel is directly connected to the Pacific Ocean, the aquifer located below the Site is in direct connection with sea water. The water table elevation at the Site is approximately equal to mean sea level and is generally influenced by tidal fluctuations. Based on work conducted by the CDWR, it appears likely that groundwater flow at the Site is from the uplands zone toward the Santa Ana River in the northern portion of the Site and from the mesa toward the Pacific Ocean in the southern portion of the Site [CDWR, 1967].

The surface water hydrology of the Site and its immediate vicinity is influenced primarily by tidal forces and the existing topography. On the Site, surface water generally flows from the upland zone to the lowland zone. Intermittent ponded water in the lowland zone and in the River Marsh is sometimes controlled by tidal influences. Surface water flows from off-site sources also contribute to the surface water hydrology of the Site via a series of culverts located in the eastern portion of the property.

2.5 Past and Current Uses of the Site

Available records indicate that prior to 1944, land use at the location of the Site primarily consisted of agriculture, livestock grazing, and undeveloped open space. A review of aerial photographs from 1927 did not reveal signs of permanent structures

located on the property. During World War II, the United States Army maintained a coast watch station on the property. Beginning in 1944, the first oil and gas production facilities were developed on the Site. The Site has been used as an oil and gas production facility since 1944. Current secondary uses of the Site include the following sublease operations: City of Newport Beach (vehicle and equipment storage) and a one-man welding operation [WNOC, 2005]. Recent secondary uses of the Site included the following sublease operations: Ocean Waste (equipment storage) and Arizona Pipeline (materials and equipment storage). A description of the Site facilities is presented in Section 2.7.

Future plans for development of the Site include a mix of residential, commercial, and open space. On 6 November 2006, the City of Newport Beach adopted its updated General Plan and listed two designations for the Site:

- Priority alternative – Site to be purchased as open space, oil operations to be consolidated, protection of wetlands and other habitats, and provision of parkland amenities; and

- Second alternative – Site to have at least 50% preserved as open space, limited development to be permitted on the upper portion of the Site (residential, commercial, and community parks). This land use plan alternative is presented in Figure 2-2.

2.6 Past and Current Uses of the Vicinity

The past land uses within the vicinity of the Site were similar to the past uses of the Site, consisting primarily of agricultural, livestock grazing, and undeveloped open space. Agricultural activities have been gradually replaced by commercial, light industrial, residential development, and oil production activities. A summary of current surrounding land use within the vicinity of the Site is as follows:

- To the north, land use is a mixture of undeveloped open space (northwest) and residential/commercial (northeast);

- To the west of the Site are the River Marsh and the Santa Ana River. West of the Santa Ana River is a municipal wastewater treatment plant;

- To the south are a canal and a residential area; and
- To the east is Whittier Avenue. Land use along and to the west of Whittier Avenue is a mixture of residential, commercial, and light industrial.

Additional information regarding these land uses is presented below.

The Talbert Regional Park comprises the open space located northwest of the Site. The park was also the former site of a crude oil and gas production facility

The adjoining property to the west of the Site is the River Marsh, as shown on Figure 1-1. The Site previously included the 92-acre (37-ha) River Marsh area located between the Site and the Santa Ana River. The River Marsh was formerly a crude oil and gas production facility exhibiting similar types of hydrocarbon-impacted materials as the Site. The River Marsh was purchased by the USCOE and restored as a wetlands as part of the USCOE Santa Ana River Flood Control Project. GSI Environmental (former name for Geosyntec) prepared a work plan for the remediation of the River Marsh to remediate the hydrocarbon-impacted materials present on the Site [GSI, 1989]. However, based on conversation with the USCOE, it is unclear whether this work plan was used by the USCOE during the restoration of the River Marsh [USCOE, 1991]. The Orange County Sanitation District (OCSD) had a treatment facility on the adjoining River Marsh site in the 1940s and 1950s. Immediately to the west of and adjacent to the Santa Ana River is an existing municipal wastewater treatment plant.

A residential area is located directly south of the Site. The residential area is separated from the Site by a canal and bounded to the south by the West Coast Highway. South of the West Coast Highway are another residential area and the Pacific Ocean.

Northeast and east of the Site, there is a mixed residential/light industrial district. The light industrial facilities include machine shops, metal finishing plants, automobile repair/modification shops, boat building yards, an aviation fuel facility, a biotechnology facility, and other industrial facilities.

2.7 Site Facilities and Description

The location of some of the Site features are shown on a map presented in Section 5 (Figure 5-1). The Site is currently operated as a crude oil and gas production facility by HDLLC. During operations, crude oil and gas are collected at well locations which penetrate subsurface petroleum reservoirs. Crude oil is pumped to the surface and stored in Site storage facilities prior to transport for offsite refining. During storage, formation water mixed with crude oil is gravity separated, and a portion of this water is reinjected into the petroleum reservoir. Excess water which cannot be reinjected is discharged into the existing sanitary sewer network. Gas present in the petroleum reservoirs beneath the Site is pretreated to remove hydrogen sulfide and conveyed to gas pipeline distribution networks. Injection wells were also used to inject steam, air, and water into deep crude oil reservoirs to increase the production quantities of crude oil from production wells. The steam/air/water injection practices for the purpose of increased oil production have been discontinued.

The Site infrastructure associated with the production of crude oil and gas includes or has included:

- an air compression plant and distribution pipe network;
- a steam plant and steam distribution pipe network;
- a maintenance shop/warehouse;
- an office building;
- a changing facility for Site personnel;
- an operations shack;
- the Main Site Tank Farm;
- four underground storage tanks, containing waste oil, diesel, and unleaded gasoline (removed);

- a crude oil piping network (both buried and aboveground);
- an out-of-service tank farm;
- a road network;
- a paved parking lot;
- a storage yard for surplus oil and gas production equipment;
- an electrical distribution network;
- a water softening plant;
- a pilot-scale bioremediation cell (currently inactive);
- active and idle oil production wells;
- active and idle steam/air/water injection wells; and
- abandoned wells.

Due to the phased cessation and relocation of oil and gas production activities at the Site, some of the infrastructure listed above are no longer used or have been removed; however, potential environmental conditions associated with each of these facilities may exist, as described in this Report.

3. RECORDS REVIEW

3.1 Record Review Approach

A records review was conducted to obtain and review records that will help identify RECs in connection with the Site and surrounding properties. The records review included:

- a database search of federal, state, county, and municipal records;
- a preliminary assessment of potential vapor intrusion conditions (VICs);
- a review of existing technical reports documenting exploration activities conducted at the Site;
- a review of available historical aerial photographs;
- a review of available historical topographic maps; and
- a review of available historical Sanborn maps.

The scope of the records review for this Phase I ESA Update is described in the Geosyntec proposal dated 7 February 2008 and is summarized in Table 1-1. The records related to the Site are presented in Section 3.2, whereas the records related to the Site vicinity are presented in Section 3.3.

3.2 Site

3.2.1 Database Records Review

The database search report was obtained from Environmental Data Resources, Inc. (EDR) and is presented as Appendix A [EDR, 2008 (on compact disc)]. The report documents findings of various governmental database searches regarding properties with known or suspected releases of hazardous materials or petroleum hydrocarbons in the vicinity of the Site and provides a list of the databases searched. The searches were performed using the approximate center of the Site from which the designated ASTM 1527-05 search radii for Phase I ESA searches were measured. Due to the relatively

large scale of the Site, these search radii were increased by ¾-mile. A description of the databases searched is included with the EDR report and the remainder of this section presents the results of the records review as they pertain to the Site.

The Site was identified in the database search, through listings on eleven databases: CERCLIS-NFRAP, Orange County Industrial Site, RCRA-LQG, UST, CA-FID UST, SWEEPS UST, FINDS, AIRS, ICIS, SLIC, and HAZNET [EDR, 2008]. A discussion of each of these database listings is presented below.

- *CERCLIS-NFRAP: Comprehensive Environmental Response, Compensation, and Liability Information System – No Further Remedial Action Planned*. CERCLIS-NFRAP lists potentially hazardous waste sites that have previously been reported to the U.S. EPA (pursuant to Section 103 of the CERCLA) for proposed inclusion on the National Priorities List (NPL), but have subsequently been removed from the list and withdrawn from NPL consideration. The database listing for the Site indicates that the Site was granted NFRAP status and archived on 1 March 1987 [EDR, 2008].

- *Orange County Industrial Site*. The Orange County Industrial Site list is maintained by the County of Orange Health Care Agency (OCHCA). The database lists sites that are on the Industrial Cleanup Program, a voluntary cleanup program for contaminated property under the oversight of the OCHCA. The Site was listed in this database due to the termination of the voluntary cleanup program listing on 22 June 2005 [EDR, 2008].

- *RCRA-LQG – Resource Conservation and Recovery Act – Large Quantity Generator*. The RCRA-LQG database is maintained by the U.S. EPA and lists sites that have notified U.S. EPA of business activities involving the generation, transport, storage, treatment, and/or disposal of over 1,000 kilograms of hazardous waste per month. The Site was listed in this database because it is a registered large quantity generator of hazardous wastes. No violations were listed in the database record for this listing [EDR, 2008].

- *UST, CA-FID UST, and SWEEPS UST – Underground Storage Tank (UST), California Facility Inventory Database UST, and the Statewide Environmental Evaluation and Planning System UST*. These databases were maintained by the

State Water Resources Control Board (SWRCB) and identified active and inactive USTs. The CA-FID UST and SWEEPS UST databases are no longer updated. The UST database contains up-to-date listings of registered USTs, required under Subtitle I of the RCRA, from the SWRCB's Hazardous Substance Storage Container Database. Listings in the three databases are due to registered underground storage tanks, the last of which was removed in 2003 [McCloskey, 2003, 2005]. The database listings did not include information regarding a release of hazardous substances or petroleum products [EDR, 2008].

- *FINDS – Facility Index System*. The FINDS database is maintained by the U.S. EPA and contains both facility information and provides direction to other sources of information that contain more detail (e.g., other database listings). The Site is listed on the FINDS database since it is also listed on several other databases [EDR, 2008].

- *AIRS – Aerometric Information Retrieval System*. The AIRS database is maintained by the U.S. EPA Air Resources Board and is a repository for ambient air quality data, and toxics and pollutant emissions data. The Site is listed on the AIRS database because it is an emissions source and conducts emissions reporting (1987, 1990, 1995-2005) to the South Coast Air Quality Management District. No AQMD exceedances were listed in the database report [EDR, 2008].

- *ICIS – Integrated Compliance Information System*. The ICIS database is maintained by the U.S. EPA and contains information on civil judicial cases filed by the U.S. Department of Justice on behalf of the U.S. EPA and is the database used to track and report information on civil judicial and administrative enforcement cases under environmental statues. The Site is listed on the ICIS because of an Clean Water Act 309a Compliance Order filed in 1998 [EDR, 2008]. The Site has subsequently been placed on the SLIC list (see below), as a result of this filing.

- *SLIC – Spills, Leaks, Investigations, Cleanup*. The SLIC program database is maintained by the Regional Water Quality Control Board (RWQCB) for sites that are under RWQCB oversight for soil and groundwater investigations,

corrective actions, and human health risk assessments. The Site is listed on the SLIC under the oversight of the Santa Ana RWQCB for the active remedial action underway at the Site [EDR, 2008].

- *HAZNET – Hazardous Waste Information System*. The HAZNET database is maintained by the Department of Toxic Substances Control (DTSC) which records annual hazardous waste manifests received by the DTSC for a recorded quantity of hazardous waste. The Site is listed on the HAZNET database for the disposal of 0.83 tons of waste oil and mixed oil. No releases from the Site or violations were listed in the HAZNET database [EDR, 2008].

3.2.2 Preliminary Assessment of Potential Vapor Intrusion Conditions

On 3 March 2008, the new ASTM Standard E 2600, *Standard Practice for Assessment of Vapor Intrusion into Structures on Property Involved in Real Estate Transactions*, was released. The standard defines the practice for conducting a vapor intrusion assessment, the goal of which is to identify whether or not a vapor intrusion condition (VIC) exists. A VIC is defined as "*the presence or likely presence of any chemical of concern (COC) in the indoor air environment of existing or planned structures caused by the release of vapor from contaminated soil or groundwater either on the property or within close proximity to the property, at a concentration that presents or may present an unacceptable health risk to occupants*." ASTM Standard E 2600 similarly defines the existence of a potential VIC (pVIC) when the screening process identifies a potential for a VIC but where there is "*insufficient data to ascertain the presence or likely presence of COC in the indoor air environment of existing or planned structures on a target property*."

A limited and preliminary pVIC evaluation was performed for the Site, utilizing only the information readily available in the EDR report, review of Site data and documentation, and results of the Site reconnaissance and interviews. This pVIC evaluation is not intended to meet the substantive requirements of the ASTM Standard E 2600 tiered screening, nor is it intended to identify which pVICs are VICs. The approach taken in this Report is similar to the first phase of conducting a Tier 1 non-numeric screening for vapor intrusion, whereby pVICs have been identified so that they may subsequently be evaluated (as needed) using a complete Tier 1 screen (not part of this Report).

Active, idle, and abandoned oil wells, pipelines, sumps, and former UST locations throughout the Site are considered pVICs by this initial vapor intrusion evaluation. Initial investigations of these locations at the Site have begun; however, additional investigations (e.g., Tier 1 screen per ASTM E 2600) are necessary to provide further evaluation of the pVIC.

3.2.3 Document Review

Site explorations have been conducted at the Site since 1986 to evaluate environmental conditions at the Site. A list of the environmental work conducted at the Site is presented in Table 3-1 and these documents were reviewed as part of the existing Site records review. The results of these investigations indicated that the Site was primarily impacted by crude oil and that these impacts were generally confined to specific operating areas, including, for example, oil well locations, pipelines, tank farms, sumps, and roadways. The data also indicated that some areas of the Site were impacted by generally low concentrations of chemicals other than crude oil, such as volatile organic compounds (VOCs) and metals. A summary of information regarding the known environmental impacts at the Site and the regulatory status of the Site is presented in Appendix D. The information regarding the regulatory status of the Site is based on Site historical data as well as recent conversations with regulatory agencies as part of this Phase I ESA Update. Detailed information regarding the Site environmental condition can be found in the reports listed in the Reference section of this Report.

3.2.4 Aerial Photograph Review

Historical aerial photographs of the Site from 1927, 1938, 1947, 1953, 1968, 1977, 1990, 1994, and 2002 were obtained from EDR [EDR, 2008]. These aerial photographs were at a higher resolution than the aerials utilized in the 2005 Phase I ESA [Geosyntec, 2005a]. Copies of these aerial photographs are included in Appendix B.

The following presents a summary of the aerial photographs reviewed:

1927 Aerial: The location of the Site was identified. Neither buildings nor Site development were observed [EDR, 2008].

1938 Aerial: The location of the Site was identified. A few paths, drainages and areas of vegetation were observed on the Site [EDR, 2008].

1947 Aerial: The location of the Site was identified. The Site was noted to be heavily traversed by a series of dirt roads and significantly developed for the production of oil. Two tank farms were identified in the locations of the existing tank farms [Whittier College, 1993]. Darker areas which are likely to be oil well or drilling mud sumps are visible near oil well completions [EDR, 2008].

1953 Aerial: The Site appeared similar to the 1947 photograph [EDR, 2008].

1968 Aerial: The Main Site Tank Farm can be located along with three sumps in the lowlands. Additional structures including the current maintenance shop building and main office can also be observed [EDR, 2008].

1977 Aerial: The steam generation plant located on the uplands was observed [EDR, 2008].

1990 Aerial: A new building can be noticed on the Site near the main gate at 17th Street. This building is currently used as an employees' changing room and showers [EDR, 1998].

1994 Aerial: The water softening plant located north of the Main Site Tank Farm was observed [EDR, 2008].

2002 Aerial: The Site appears similar to the 1994 photograph [EDR, 2008].

The features identified in the aerial photographs are identified on Figure 5-1 (presented in Section 5), with the exception of the oil well sumps which can be observed on the 1947 aerial photograph. Observations on this set of aerial photographs confirm the information gathered from the environmental report review and general Site knowledge

3.2.5 Topographic Map Review

Topographic maps were obtained from EDR from the following years: 1901, 1902, 1935, 1951 1965, 1972, and 1981. Copies these topographic maps are included in

Appendix C. The following presents a summary of the United States Geological Survey (USGS) topographic maps reviewed [EDR, 2008]:

1901: The approximate location of the Site was identified. The Santa Ana River is shown as dendritic without adjacent levees. The Santa Ana River discharges to a relatively large marsh or wetland along the coast. A rail line is shown extending to the coast east of the Site. The topography of the Site is shown as mostly flat with the exception of the north east corner of the former marsh/wetland. No development of the Site is indicated.

1902: The Site and surrounding features appear similar to the 1901 topographic map.

1935: The levees for the Santa Ana River have been constructed. A majority of the wetland area appears filled. More detailed topographic contouring on the Site shows the upland and lowland areas of the Site. The southern portion of the lowlands adjacent to the bluffs is shown as wetlands. No development of the Site is indicated.

1951: A network of roads is shown across the lowlands that extend into the upland area. The lowland area is labeled as "Oil Wells." Topography at the Site appears similar to that shown in the 1935 topographic map. A label of "sewage disposal" is shown in the southwest corner of the lowlands. This sewage disposal location appears to be located on the River Marsh area.

1965: The Greenville Banning Channel is shown parallel to the Santa Ana River. Wetland or marsh areas are no longer shown in the southeast corner of the lowlands. A label "WT" (possibly Water Treatment) has replaced the "sewage disposal" label observed in the 1951 topographic map. The remaining features and topography of the Site are similar to that shown on the 1951 topographic map.

1972: Site topography and features appear similar to the 1965 topographic map.

1981: Site topography and features appear similar to the 1972 topographic map.

Observations on this set of topographic maps confirm the information gathered thus far at the Site.

3.2.6 Sanborn Map Review

Sanborn maps were requested from EDR; however, EDR reported that there was no coverage for the Site area (See Appendix A).

3.3 Site Vicinity

3.3.1 Database Records Review and Document Review

As described in Section 3.2.1, the database search report was obtained from EDR [EDR, 2008]. The EDR report documents the findings of various governmental database searches regarding properties with known or suspected releases of hazardous materials or petroleum hydrocarbons in the vicinity of the Site and provides a list of the databases searched. A description of the databases searched is included with the EDR report and the remainder of this section presents the results of the records review as they pertain to the Site vicinity.

Over 420 facilities were identified in the database search in the Site vicinity [EDR, 2008]. Of these listings, approximately 70 facilities were estimated to be located within 1/4 mile of the property boundary of the Site. Each listing was reviewed to evaluate its potential to impact the Site and a summary of selected identified off-site facilities in proximity to the Site is presented in Table 3-2.

The majority of the facilities identified in the databases were listed due to their status as hazardous waste generators or having registered USTs, but were listed as having no violations or releases. Several listings were due to leaking USTs, where either the case was listed as closed by the lead regulatory oversight agency or the facility was located on the western side of the Santa Ana River, creating limited potential for impacts to the Site. Four remaining facilities located within approximately 1/2 mile of the Site are discussed below and were identified as RECs.

3.3.1.1 California Exploration Company

The California Exploration Company (aka Barto Oil) was identified in several databases. The facility is located approximately 1/5-mile east of the Site. A profile report provided by the DTSC indicates, in the 1993 database search, that the California Exploration Company appears to have been an oil waste storage and disposal facility. Potential hazardous wastes and petroleum hydrocarbons associated with these activities include "tank bottom wastes," "oil-water separator sludge," and "unspecified aqueous solution" [DTSC, 1998]. In 1994, the DTSC determined that no further action was required on the facility and the case was referred to the RWQCB. Database records reviewed in the 2008 EDR report did not provide any additional or new information regarding the current status of this facility.

Based on the close proximity of this facility to the Site, further evaluation of its current regulatory status and extent of potential contamination may be warranted.

3.3.1.2 Newport Terrace Landfill

The Newport Terrace Landfill (aka the Newport City Dump #1 and Leadership Housing Systems) was identified on several databases. The facility is a closed solid waste landfill located approximately 1/10-mile northeast of the Site, which primarily accepted inert materials and green waste [Orange County Health Care Agency (OCHCA), 1998a]. It is currently used as undeveloped open space for Newport Terrace Condominiums. Landfill gas at the facility is monitored monthly. Quang Nguyen, Head of Closed Sites for the OCHCA, reported in 1998 that he was not aware of impacts to groundwater presently associated with the facility [OCHCA, 1998a]. Database records reviewed in the 2008 EDR report did not provide any additional or new information regarding the current status of this facility. Based on the close proximity of this facility to the Site, further evaluation of its current regulatory status and extent of potential contamination may be warranted.

3.3.1.3 Grand Plan – Eaton / Nexus

The Grand Plan property is identified in several databases. The property is located approximately 1/3-mile east of the Site and consists of an approximate 7 acre vacant parcel, which was a formerly used by Eaton Corporation for the fabrication and

assembly of aerospace cockpit controls. The property is active on the Voluntary Cleanup Program, under the oversight of the DTSC (lead agency), to address identified tetrachloroethylene (PCE) contamination in soil, soil vapor, and groundwater. Historical records indicate that the property has been listed as a transfer station for halogenated organic compounds, hydrocarbon solvents, waste oil, and mixed oil. The property is also identified for an unspecified release of halogenated solvents, although the case is listed as closed in November 1994 by the OCHCA (oversight agency at that time). DTSC records indicate that a Removal Action Completion Report is expected sometime in 2008 [EDR, 2008]. Based on the close proximity of this facility to the Site, further evaluation of the current status of remediation at the facility and extent of the contamination may be warranted.

3.3.1.4 Hughes Aircraft Company / Future Newport Health Care Facility

The Hughes Aircraft Company / Future Newport Health Care Facility is identified in several databases. The facility is located approximately ½-mile east-southeast of the Site and was listed on the EDR report primarily due to a leaking solvents UST which had contaminated groundwater. The facility is also listed for a leaking diesel underground storage tank, although impacts were listed to include soil only and the case is listed as closed by the State and regional water boards. The facility is listed as a Transfer, Storage, Disposal Facility (TSDF) and small-quantity generator of hazardous wastes and is on record as submitting hazardous waste manifests to the DTSC. Numerous violations were listed, although these were "land-ban" and other "oversights" [EDR, 2008].

The reviewed database records indicate that the RWQCB has concluded that migration of contaminated groundwater and current human exposures are "under control." The facility was previously removed from the CERCLIS and designated as NFRAP. Based on the close proximity of this facility to the Site, further evaluation of the current status of remediation at the facility and extent of groundwater contamination may be warranted.

3.3.2 Preliminary Assessment of Potential Vapor Intrusion Conditions

As described in Section 3.2.2, the new ASTM Standard E 2600 defines the practice for conducting a vapor intrusion assessment, including the identification of pVICs and

screening to determine whether or not VICs exist. The approach taken in this Report is similar to the first phase of conducting a Tier 1 non-numeric screening for vapor intrusion, whereby pVICs have been identified so that they may subsequently be evaluated (as needed) using a complete Tier 1 screen (not part of this Report). The evaluation presented herein is therefore limited in extent and preliminary in nature, and utilizes only the information readily available in the EDR report, Site data and documentation, and results of the Site reconnaissance and interviews.

The preliminary evaluation presented in Table 3-2 identifies four facilities as pVICs. These four facilities have been identified because of their respective documented sources of soil and/or groundwater contamination and their locations being hydrogeologically upgradient of the Site. A Tier 1 screen per ASTM E 2600 is necessary to provide further evaluation of the pVICs.

3.3.3 Aerial Photograph Review

The following presents a summary of the aerial photographs reviewed:

1927 Aerial: Land use adjacent to the Site appeared to be agricultural [EDR, 2008].

1938 Aerial: Land use surrounding the Site appeared to be predominantly open space with some agricultural use [EDR, 2008].

1947 Aerial: Land use surrounding the Site appeared to still be predominantly agricultural [EDR, 2008].

1953 Aerial: Some residential, commercial or industrial development observed to the east of the Site. Land use surrounding the Site is predominantly open space and agricultural [EDR, 2008].

1968 Aerial: Surrounding land use appeared to be less agricultural and more residential, commercial, and light industrial. Increased density of residential, commercial, or industrial development observed to the east and south of the Site south of Pacific Coast Highway [EDR, 2008].

1977 Aerial: Increase in residential, commercial or industrial development observed to the east, south and southwest of the Site [EDR, 2008].

1990 Aerial: No significant changes in surrounding land use were noted [EDR, 2008].

1994 Aerial: Surrounding property use appears similar to the 1990 photograph [EDR, 2008].

2002 Aerial: Surrounding property use appears similar to the 1994 photograph [EDR, 2008].

3.4 Data Evaluation

Based on the record review performed as part of this Phase I ESA Update, a number of on-site RECs were identified and are listed in Table 3-3. The preliminary list presented in Table 3-3 is based on previous Phase I ESAs, Site investigations performed at the Site [Geosyntec, 1999, 2001b, and 2005a], and based on the results of the Site reconnaissance and interviews conducted as part of this Phase I ESA Update (see Section 4). A summary of available information regarding some of these RECs is presented in Appendix E.

A review of environmental reports available for the Site (see Appendix D) revealed the presence of three historical RECs, including the cement returns area, the wetland fill area, and the storm water/surface water quality issues. These historical RECs have been addressed by the current Site owner and operator. Based on correspondence and recent conversations with the lead regulatory agency for these RECs (the RWQCB), no further action will be required for remediation of these RECs [RWQCB, 2003, 2005].

Vadose zone gas has been detected at the Site next to some oil wells as well as at other locations (see Appendix D). The origin of the gas detected in the vadose zone is likely either formation gas or swamp gas generated by decomposition of organic matter in the subsurface.

Data obtained from the review of aerial photographs and database search confirms the information presented in Table 3-3. Specifically, the aerial photograph dated 1947 provides an indication of the potential location of drilling mud sumps or oil well sumps on the Site. A review of historical topographic maps also confirms the information presented in Table 3-3 and indicates the possible presence of sewage disposal in the southwest corner of the lowlands. The sewage disposal area appeared to be located on

the River Marsh area and likely represents the former location of a sewage treatment plant operated by the OCSD.

Review of the available information regarding off-site properties obtained from the database reports identifies four off-site facilities as RECs, as presented in Table 3-2.

4. SITE RECONNAISSANCE AND INTERVIEWS

4.1 Approach

Geosyntec performed a Site reconnaissance and interviewed the HDLLC Site superintendent (Mr. Rick Swaringen), as well as e-mail update correspondence with representatives of the owner partnership (Mr. Scott Andrews, Cherokee, and Mr. Michael Klancher, NBR LLC) to assess present Site conditions and to identify and evaluate evidence of RECs existing at the Site. The Site reconnaissance was performed on12 March 2008 and was documented using photographs which are included in Appendix F. Figures 5-1 and 5-2 show the approximate locations of specific Site features discussed in the following sections. Photograph locations and orientations are included in Figure 5-1.

Mr. Rick Swaringen, Mr. Scott Andrews, and Mr. Michael Klancher provided information on past and current Site operations. In addition, Geosyntec reviewed the due diligence audit information compiled by Cherokee as part of its assessment of the Site. Development Team – Cherokee to decide if audit report excerpts should be included as Appendix G. In addition, Geosyntec contacted Mr. Ken Theisen of the RWQCB and discussed the environmental work on-going at the Site.

4.2 Data Evaluation

The results of the Site reconnaissance and interviews were used to identify and evaluate RECs existing at the Site.

The hazardous substances and/or petroleum hydrocarbons (or materials containing hazardous substances or petroleum hydrocarbons) and their locations reported to be currently or historically used at the Site are listed in Table 4-1. Material Safety Data Sheets (MSDS) for hazardous substances (or materials containing hazardous substances) that were reported to be historically or currently in use at the Newport Banning Ranch [McCloskey, 2005; Swaringen, 2008] are contained in Appendix H.

Hazardous substances or petroleum hydrocarbons are generally placed and stored in containers to reduce the potential of leakage or spills into the subsurface. However, it was noted that in some areas of the Site, some hazardous substances or petroleum

hydrocarbons may have locally impacted the soil, due to small spills or the loss of container integrity. Based on historical Site operations, the Site is currently investigating and remediating areas under the RWQCB-directed SLIC program.

An inventory of RECs was developed based on the results of the Site reconnaissance and interviews. These RECs are listed in Table 3-3 and are the same as those RECs historically identified at the Site [Geosyntec, 1999, 2001b, and 2005a]. Available information regarding some of these RECs is presented in Appendix E. Observations made during the Site reconnaissance activities performed as part of this Phase I ESA Update, identified noteworthy change to some of the RECs listed in the previous Phase I ESA, as explained below:

- Main Site Tank Farm (REC 2) – a Free Product Recovery System (FPRS) has been installed at the Main Site Tank Farm area. The FPRS is a trailer-mounted belt skimmer system which utilizes a looped hydrophobic belt that is lowered into free product extraction wells. Upon contacting the rotating belt, free product adheres to its surface and is removed from the well by a fixed wiper blade mounted near the motor housing. The recovered product is then discharged to a secondarily contained container for temporary holding. No evidence of spills or leaks was observed during the Site reconnaissance. This system has been added to the features identified under REC 2.

- Biotreatment Cell Stockpile (REC 7) – the biotreatment cell stockpile area was originally used as a treatment location for soil undergoing treatment to reduce its hydrocarbon content. Observations made during the Site reconnaissance indicate that the Biotreatment Cell Stockpile area is currently being used for the disposition/spreading of concrete returns. This changed condition has been added to REC 7.

- Lowland Debris Stockpile (REC 16) – soil fill material excavated as part of the lowland debris removal effort was stockpiled on a lined pad in the uplands area of the Site. Observations made during the Site reconnaissance indicate that the liner in this area has become compromised, likely as a result of the investigation of a nearby abandoned oil well. Concrete debris removed as part of this excavation effort is stockpiled adjacent to the lined area. This work was

performed under the oversight of the RWQCB. This changed condition has been added to REC 16.

- Oil Wells (REC 24) – six new oil wells have been installed at the Site since 2005, as shown on Figure 5-2. Three oil wells were installed east of the Main Site Tank Farm and three were installed north of the City of Newport Beach Tank Farm. These additions have been added to REC 24.

- Facility Dismantling and/or Decommissioning – several facilities at the Site have been dismantled and decommissioned since 2005. These include the Air Compression Plant (REC 3), Steam Generation Plant (REC 4), Water Softening Plant (REC 5), Secondary Tank Farm (REC 6), Underground Storage Tank and Fuel Pump (REC 13), and the Coast Watch Station (REC 14). The updated status of each of these RECs has been added to Table 3-3.

Other areas of environmental concern were identified as part of this or previous Phase I ESAs, and were either included in an existing REC, deemed to be of lesser significance than the previously discussed RECs, or considered to be outside of the scope of this Phase I ESA Update. These areas of environmental concern are discussed below:

- Three drainage culverts exist on the eastern perimeter of the Site. These culverts transport off-site water onto the Site which is largely runoff from roadways, residential areas, light industrial areas, and commercial areas. It is therefore possible that hazardous substances and/or petroleum hydrocarbons are being transported to the Site from off-site sources via these drainage culverts. Soil samples were collected by Geosyntec near the outfalls of the three culverts on 9 October 1998. Surface water was also sampled at the two northernmost culverts but not the southern culvert, which was dry. Soil and groundwater samples were tested for general inorganic parameters only, and did not indicate the presence of impacts at these drainage culverts at the time of testing. This environmental concern was therefore included as part of the storm water/surface water quality issues discussed in Section 3.4.

- The OCSD operated a sewage treatment plant on land currently occupied by the River Marsh adjacent to the Site. This sewage treatment plant was identified during the review of the historical topographic maps (see Section 3.2.5). Joe

Rycraw of the OCSD stated that it is possible that abandoned sewage pipelines cross the Site [OCSD, 1993].

- The Bohn-Mack Slough flows across the southern end of the Site. The WNOC at one time maintained a bird screen across the slough to prevent water fowl from landing in the slough in the event of a crude oil spill into the slough. However, the WNOC no longer feels this precaution is necessary, and the bird screen has fallen into disrepair. This slough is located in and is considered part of the Main Site Tank Farm Area (REC 2).

- There are a number of old trucks, cars, boats, drill rigs, and other miscellaneous equipment stored in various areas of the Site in addition to those stored in the Maintenance Shop area. There is a potential for small leaks of oil from these vehicles.

- There are a number of telephone poles across the Site. Creosote is typically present in many telephone poles and could potentially leach into the soil or proximal surface water. Telephone poles are part of the electrical distribution network and are included in REC 9.

- Since many of the Site structures and equipment were built and installed before 1966, there is a potential for the presence of lead-based paint and asbestos-containing materials. The absence or presence of lead-based paint or asbestos-containing materials has not been confirmed.

- The lowland area of the Site consists primarily of tidally influenced and seasonal pond wetlands. Additionally, the 92-acre River Marsh, immediately adjacent to the Site and next to the Santa Ana River, is a wetlands region. The River Marsh was purchased by the USCOE and restored as a wetlands as part of the USCOE Santa Ana River Flood Control Project. There may be specific requirements for restoration or management of the wetlands required by the regulatory agencies.

5. SUMMARY OF FINDINGS AND OPINIONS

5.1 General

Geosyntec has performed a Phase I ESA Update of the Newport Banning Ranch property located in the County of Orange, California (the Site). This Report has revealed the presence of RECs both from the Site itself and from off-site facilities. The significance of these RECs was evaluated and RECs identified in this Report were classified as RECs, historical RECs, de minimis environmental conditions, or other issues of potential concern. In addition, a limited and preliminary pVIC evaluation was also performed. The result of this assessment is summarized in the following sections.

5.2 RECs

A total of four off-site facilities were evaluated as RECs, as listed in Table 3-2. A total of 27 on-site RECs were identified in this Report, as listed in Table 3-3. Table 3-3 indicates if (i) Site investigations have been performed at each of these RECs, and (ii) based on the data gathered from the Site investigation, it is likely that remediation will be required at these RECs, based on the anticipated Site reuse contemplated by NBR LLC. Available information regarding some of these RECs is summarized in Appendix E. Detailed information regarding these RECs is generally available in the documents listed in Table 3-1, the Reference section of this Report, or in Appendix A (EDR Report).

5.3 Historical RECs

A total of three historical RECs have been identified at the Site, including:

- Cement Return Area;
- Wetland Fill Area; and
- Storm water/surface water quality issues.

These historical RECs, which are also listed in Table 3-3, have been addressed by the current Site owner and operator. Based on correspondence and recent conversations with the lead regulatory agency (the RWQCB), no further action is required for remediation of these RECs [RWQCB, 2003, 2005]. However, the storm water/surface

water quality issues historical REC may become of concern again depending on the nature and quality of on-site and off-site operations in the future.

5.4 De Minimis Environmental Conditions

A few de minimis conditions have been identified at the Site. These de minimis conditions are not expected to have a significant impact on the environment and would not likely be the subject of an enforcement action by Site regulators. These de minimis environmental conditions include:

- Old sewer pipes associated with the former sewage treatment plant located on the River Marsh, and
- Old trucks, drill rigs, and equipment located across the Site.

5.5 pVICs

A limited and preliminary pVIC evaluation was performed for the Site, utilizing only the information readily available in the EDR report, review of Site data and documentation, and results of the Site reconnaissance and interviews. This pVIC evaluation is not intended to meet the substantive requirements of the ASTM Standard E 2600 tiered screening, nor is it intended to identify which pVICs are VICs. The approach taken in this Report was similar to the first phase of conducting a Tier 1 non-numeric screening for vapor intrusion, whereby pVICs have been identified so that they may subsequently be evaluated (as needed) using a complete Tier 1 screen (not part of this Report).

On-site pVICs identified through this initial vapor intrusion evaluation include active, idle, and abandoned oil wells, pipelines, sumps, and former UST locations throughout the Site. Off-site pVICs identified through this initial vapor intrusion evaluation include the four facilities identified in Table 3-2. These four facilities were identified because of their respective documented sources of soil and/or groundwater contamination and their locations being hydrogeologically upgradient of the Site. A Tier 1 screen per ASTM E 2600 is necessary to provide further evaluation of both the on-site and off-site pVICs identified herein.

5.6 Other Issues of Concern

While specifically excluded from the scope of work, Geosyntec noted some issues which may be of concern to NBR LLC including:

- presence of lead-based paint and asbestos-containing materials (ACM) at the Site, and
- wetlands located throughout the lowland area.

6. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The Newport Banning Ranch property (the Site) is a 400-acre oil and gas production facility located east of the mouth of the Santa Ana River near the Huntington Beach - Newport Beach city boundary in Orange County, California. Various structures and equipment which are or were used for the production of oil and gas are present at the Site. These structures and equipment include oil wells, pipelines, drill rigs, tank farms, a steam generating plant, compressed air plant, generators, and an equipment maintenance facility, as well as other structures and equipment. Environmental investigations and restoration work have been performed over the past 15 years at the Site as part of on-going oil operations, and preparation for alternative end uses of the Site (including development). While a few conditions at the Site have changed in the last two years (e.g., drilling six new oil wells), the Site has not substantively changed since performing the Phase I ESA in 2005.

The results of investigations performed to date indicate that the Site is primarily impacted by crude oil and that these impacts are generally confined to specific operating areas, including, for example, oil well locations, pipelines, tank farms, sumps, and roadways. The data also indicates that some areas of the Site are impacted by generally low concentrations of chemicals other than crude oil, such as volatile organic compounds (VOCs) and metals.

We have performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E 1527-05 at the Site. Any exceptions to, or deletions from, this practice are described in Section 1 of this report. This assessment has revealed no evidence of recognized environmental conditions, in connection with the property, except as listed in Tables 3-2 and 3-3.

Site investigations have been conducted at some of the RECs identified in Table 3-3. Remedial action will be required at some of these RECs. Currently, the lead regulatory agency for the Site (the RWQCB) has requested that a remediation plan be implemented at the Site under the SLIC voluntary cleanup program. The nature and extent of future remediation for this and other areas of the Site has not yet been completely defined and will depend on the reuse of the property. The remediation program currently contemplated for the Site is described in the report titled *Environmental Site Assessment*

and Preliminary Site Remediation Budget Estimate prepared by Geosyntec [Geosyntec, 2005].

Storm water/surface water quality has been estimated to be an historical REC because chemical testing did not reveal environmental impacts and/or the RWQCB did not require mitigation to address storm water/surface water quality. However, the future quality of storm water/surface water and associated receiving basins may change depending on the nature and quality of on-site and off-site operations.

Based on the findings of this Phase I ESA Update, it is suggested that additional Site investigation work be performed in the sublease area once the leasees vacate the Site, at some of the oil wells (including a potential vapor intrusion assessment), in the transformer storage areas, and in the stockpile areas. This work will help reduce some of the existing uncertainty regarding the nature of these RECs.

Geosyntec also recommends that an environmental monitoring program be implemented as part of grading activities during future development of the Site. Because the Site is relatively large, there is the potential for impacted material to exist in the surface and subsurface which were not recognized during the Phase I ESA Update (or previously), and additional areas of environmental concern could possibly be uncovered during grading of the Site. An environmental monitoring program implemented during these grading activities could potentially identify environmental concerns not readily found as a result of the Phase I (primarily a visual inspection and records review) and the Phase II (sampling at discrete points) investigations.

7. SIGNATURE AND QUALIFICATIONS

This Phase I ESA Update (Report) was prepared in general conformance with the scope and limitations of the ASTM *Standard E 1527-05, Standard Practice for Environmental Assessments: Phase I Environmental Site Assessment Process*. This Report was prepared in accordance with the scope of work, terms, and conditions described in Geosyntec's proposal dated 7 February 2008. A listing of the ASTM Standard E 1527-05 elements included and excluded from the scope of work is presented in Table 1-1.

The conclusions contained in this Report are based solely on the analysis of the conditions as observed by Geosyntec personnel and as reported by regulatory agencies and other named sources at the time the Phase I ESA Update process was performed. This Report is not, nor should it be construed as, a regulatory compliance audit.

Geosyntec reporting and documentation with respect to the Site reconnaissance are based on observations of the Site conditions on 12 March 2008. During the Site reconnaissance, Geosyntec attempted to visit each area of the Site where existing Site records indicated that there are currently, or have been in the past, structures and facilities related to oil and gas production. However, because the Site covers approximately 400 acres (162 ha), some of the oil well and pipeline locations in remote areas of the Site were not visited. In addition, many areas of the Site which consist of dense brush and marsh were not accessible and, therefore, could not be visited.

No warranty, expressed or implied, is made regarding the professional opinions expressed in this Report or concerning the completeness of the data presented to us. If actual conditions are found to differ from those described in this Report, or if new information regarding the Site is obtained, Geosyntec should be notified and additional recommendations, if required, will be provided. Geosyntec is not liable for any use of the information contained in this Report by persons or parties other than NBR LLC.

The qualifications of the environmental professionals who prepared this report are provided in Appendix I.

Geosyntec consultants

I declare that, to the best of my professional knowledge and belief, I meet the definition of *environmental professional* as defined in §312.10 of 40 CFR 312.

D R A F T
SIGNATURE

Eric D. Smalstig, P.E.
NAME

Associate
TITLE

27 March 2008
DATE

REFERENCES (to be reconciled for final draft)

Geosyntec consultants

Tables

Geosyntec consultants

Table 1-1 Detailed Scope Element per ASTM E 1527-05
Newport Banning Ranch
Orange County, California

SCOPE ELEMENT	ASTM E-1527-05 Reference	INCLUDED?
RECORDS REVIEW	**8.0**	- -
Standard Environmental Record Sources (radii of search 0.5/1.0 miles)	**8.2.1**	- -
Federal NPL site list	8.2.1	Yes
Federal Delisted NPL site list	8.2.1	Yes
Federal CERCLIS list	8.2.1	Yes
Federal CERCLIS NFRAP site list	8.2.1	Yes
Federal RCRA CORRACTS facilities list	8.2.1	Yes
Federal RCRA non-CORRACTS TSD facilities list	8.2.1	Yes
Federal RCRA generators list	8.2.1	Yes
Federal institutional control/engineering control registries	8.2.1	Yes
Federal ERNS list	8.2.1	Yes
State and tribal lists of hazardous waste sites identified for investigation or remediation: State- and tribal-equivalent NPL	8.2.1	Yes
State and tribal lists of hazardous waste sites identified for investigation or remediation: State- and tribal-equivalent CERCLIS	8.2.1	Yes
State and tribal landfill and/or solid waste disposal site lists	8.2.1	Yes
State and tribal leaking storage tank lists	8.2.1	Yes
State and tribal registered storage tank lists	8.2.1	Yes
State and tribal institutional control/engineering control registries	8.2.1	Yes
State and tribal voluntary cleanup sites	8.2.1	Yes
State and tribal Brownfield sites	8.2.1	Yes
Additional Environmental Record Sources	**8.2.2**	- -
Types of Records	8.2.2	- -
Local Brownfield Lists	8.2.2	Yes
Local Lists of Landfill/Solid Waste Disposal Sites	8.2.2	Yes
Local Lists of Hazardous Waste/Contaminated Sites	8.2.2	Yes
Local Lists of Registered Storage Tanks	8.2.2	Yes
Local Land Records (for activity and use limitations)	8.2.2	No
Records of Emergency Release Reports (42 U.S.C. 11004)	8.2.2	No
Records of Contaminated Public Wells	8.2.2	No
Sources	8.2.2	- -
Department of Health/Environmental Division	8.2.2	Yes
City Fire Department	8.2.2	Yes
Planning Department	8.2.2	No
Building Permit/Inspection Department	8.2.2	No
Local/Regional Pollution Control Agency	8.2.2	No

Table 1-1 Detailed Scope Element per ASTM E 1527-05 (continued)
Newport Banning Ranch
Orange County, California

SCOPE ELEMENT	ASTM E-1527-05 Reference	INCLUDED?
Local/Regional Water Quality Agency	8.2.2	No
Local Electric Utility Companies (for records relating to PCBs)	8.2.2	No
Physical Setting Sources	**8.2.3**	- -
Mandatory Standard Physical Setting Source	8.2.3	- -
USGS – Current 7.5 Minute Topographic Map (or equivalent)	8.2.3	Yes
Discretionary and Non-Standard Physical Setting Sources	8.2.3	- -
USGS and/or State Geological Survey – Groundwater Maps	8.2.3	No
USGS and/or State Geological Survey – Bedrock Geology Maps	8.2.3	No
USGS and/or State Geological Survey – Surficial Geology Maps	8.2.3	No
Soil Conservation Service – Soil Maps	8.2.3	No
Other Physical Setting Sources that are reasonably credible	8.2.3	No
Standard Historical Sources	**8.3.4**	- -
Aerial Photographs (review of one source of air photo)	8.3.4.1	Yes
Fire Insurance Maps (such as Sanborn maps)	8.3.4.2	Yes
Property Tax Files	8.3.4.3	No
Recorded Land Title Records	8.3.4.4	No
USGS Topographic Maps (other than requirement of 8.2.3)	8.3.4.5	No
Local Street Directories	8.3.4.6	Yes
Building Department Records	8.3.4.7	No
Zoning/Land Use Records	8.3.4.8	No
Other Historical Sources	8.3.4.9	No
Site RECONNAISSANCE	**9.0**	- -
General Site Setting	**9.4.1**	- -
Current Use(s) of the Property	9.4.1.1	Yes
Past Use(s) of the Property	9.4.1.2	Yes
Current Uses of Adjoining Properties	9.4.1.3	Yes
Past Uses of Adjoining Properties	9.4.1.4	Yes
Current or Past Uses in the Surrounding Area	9.4.1.5	Yes
Geologic, Hydrogeologic, Hydrologic, and Topographic Conditions	9.4.1.6	Yes
General Description of Structures	9.4.1.7	Yes
Roads	9.4.1.8	Yes
Potable Water Supply	9.4.1.9	Yes
Sewage Disposal System	9.4.1.10	Yes
Interior and Exterior Observations	**9.4.2**	- -
Current Use(s) of the Property	9.4.2.1	Yes

Table 1-1 Detailed Scope Element per ASTM E 1527-05 (continued)
Newport Banning Ranch
Orange County, California

SCOPE ELEMENT	ASTM E-1527-05 Reference	INCLUDED?
Past Use(s) of the Property	9.4.2.2	Yes
Hazardous Substances and Petroleum Products in Connection with Identified Uses	9.4.2.3	Yes
Storage Tanks	9.4.2.4	Yes
Odors	9.4.2.5	Yes
Pools of Liquid	9.4.2.6	Yes
Drums	9.4.2.7	Yes
Hazardous Substance and Petroleum Products Containers (not necessarily in connection with identified uses)	9.4.2.8	Yes
Unidentified Substance Containers	9.4.2.9	Yes
PCBs	9.4.2.10	Yes
Interior Observations	**9.4.3**	- -
Heating/Cooling	9.4.3.1	Yes
Stains or Corrosion	9.4.3.2	Yes
Drains and Sumps	9.4.3.3	Yes
Exterior Observations	**9.4.4**	- -
Pits, Ponds or Lagoons	9.4.4.1	Yes
Stained Soil or Pavement	9.4.4.2	Yes
Stressed Vegetation	9.4.4.3	Yes
Solid Waste	9.4.4.4	Yes
Waste Water	9.4.4.5	Yes
Wells	9.4.4.6	Yes
Septic Systems	9.4.4.7	Yes
INTERVIEWS WITH (PAST AND) PRESENT OWNERS AND OCCUPANTS[(1)]	**10.0**	**YES**
INTERVIEWS WITH STATE AND/OR LOCAL GOVERNMENT OFFICIALS	**11.0**	- -
State and/or Local Agency Officials	**11.5.1**	- -
Local Fire Department that Serves the Property	11.5.1.1	No
State and/or Local Health Agency or Local/Regional Office of State Health Agency Serving the Area in Which the Property is Located	11.5.1.2	No
State and/or Local Agency or Local/Regional Office of State Agency having Jurisdiction over Hazardous Waste Disposal or Other Environmental Matters in the Area in which the Property is Located	11.5.1.3	No
Local Agencies Responsible for the Issuance of Building Permits or Groundwater Use Permits that Document the Presence of AULs which may Identify a Recognized Environmental Condition in the Area in which the Property is Located.	11.5.1.4	No
EVALUATION AND REPORT PREPARATION	**12.0**	**YES**
NON-SCOPE CONSIDERATIONS[(2)]	**13.0**	- -
Asbestos-Containing Building Materials[(4)]	13.1.5.1	Limited

Table 1-1 Detailed Scope Element per ASTM E 1527-05 (continued)
Newport Banning Ranch
Orange County, California

SCOPE ELEMENT	ASTM E-1527-05 Reference	INCLUDED?
Radon	13.1.5.2	No
Lead-Based Paint(4)	13.1.5.3	Limited
Lead in Drinking Water	13.1.5.4	No
Wetlands	13.1.5.5	No
Regulatory Compliance(4)	13.1.5.6	Limited
Cultural and Historical Resources	13.1.5.7	No
Industrial Hygiene	13.1.5.8	Limited(3)
Health and Safety	13.1.5.9	No
Ecological Resources	13.1.5.10	No
Endangered Species	13.1.5.11	No
Indoor Air Quality	13.1.5.12	No
Biological Agents	13.1.5.13	No
Mold(4)	13.1.5.14	Limited

Notes: (1) Contact information for previous and current owner(s) to be provided to Geosyntec.
(2) These items may be added, based on site observation or owner knowledge, at additional cost.
(3) The agency responsible for regulating Biomerica will be contacted for potential notices of violation or case file on the property.
(4) These items would include a limited visual assessment of target areas identified by Client. Phase I ESA proposal does not include destructive or intrusive testing; select detailed assessment and/or testing will be performed, at Client's option, during a limited Phase II ESA, as a separate scope of work.

Geosyntec consultants

Table 3-1 Environmental Studies (1986-2005)
Newport Banning Ranch
Orange County, California

AUTHOR/DATE	SUBJECT	COMMENTS
Levine-Fricke (18 March 1986)	Soil and Surface Water Assessment	Up to 14% petroleum hydrocarbons in soil samples. Less than 200 parts per million (ppm) soil and less than 1 ppm water metals concentrations in soil and surface water samples. 10 ppm to non-detectable hydrocarbons concentrations in surface water samples. Low detection of VOC in surface water. VOC concentrations (acetone, methylene chloride, and vinyl acetate) on site soils (potentially laboratory contamination), no detection of polychlorinated biphenyls (PCBs)
Levine-Fricke (27 June 1986)	Surface Water and Shallow Ground Water Assessment	No VOC detected in surface water samples. One chlorinated compound, vinyl chloride detected at 40 µg/l in a groundwater sample collected from the vicinity of the maintenance building sump. Several aromatic compounds (ethylbenzene, toluene, and xylenes) detected in three groundwater samples at concentrations below 1 ppm
GSI Environmental (September 1989)	Santa Ana River Marsh	Up to 32% hydrocarbons in soil samples, VOC, SVOC, PCBs were not detected in soil samples, metals concentrations were within the typical concentration ranges of metals in soils. Sheen noted on groundwater
Earth Technology (21 August 1990)	Tank Bottom Materials and Asphalt-Like Materials	Up to 32% hydrocarbons in soil samples, BTEX detected in some soil samples, though when hydrocarbon concentrations were below 1000 ppm, BTEX concentrations were below 0.1 ppm
Geosyntec Consultants (July 1991)	Tank Bottom Materials	Tank Bottom Materials do not exhibit the properties of a hazardous waste
Geosyntec Consultants (10 October 1993)	Phase I Environmental Site Assessment	The following recognized or potentially-recognized environmental conditions: petroleum-impacted soils, solid waste and debris, above ground-storage tanks, underground storage tanks, parts-cleaning troughs, oil-production wells, empty 55-gallon drums, non-operative motor vehicles, construction debris, surplus equipment, a sewer main, and septic tanks
Geosyntec Consultants (9 November 1993)	Soil Gas Survey	Organic vapors in oil well sumps and in storage tanks, fugitive emissions being released from oil-production wells
Geosyntec Consultants (25 December 1994)	Baseline Ground Water and Soil Study	Up to 0.2% hydrocarbon concentration, at least 55 ppm hydrocarbon concentration in eight randomly-selected soil samples, metals concentrations were within the typical range of metals concentrations in soils, benzene detected at a concentration of 0.6 µg/l (0.1 µg/l above the laboratory detection limit) in one of four groundwater samples
Geosyntec Consultants (1 May 1995)	Leachability of Asphalt-Like Materials	No VOC, SVOC, or hydrocarbon detected in the extract from the leached asphalt-like material. Barium was detected at a concentration of 0.8 ppm
Geosyntec Consultants (8 June 1995)	Drilling Mud Pit Evaluation	Metals concentrations were within the typical range of metals concentrations in soils, VOC and SVOC not detected, hydrocarbons concentrations below 1,000 ppm
Geosyntec Consultants (13 September 1995)	Soils beneath NBR Pipelines	VOC not detected below natural gas pipelines, sulfite not detected below steam pipelines, metals concentrations were within the typical range of metals concentrations in soils
Geosyntec Consultants (25 October 1995)	Transformer Inventory	Most transformers containing PCBs moved off-site. A few of the 39 inventoried still remain on site (as of 1995). Suggests new inventory once next/final removal actions are planned.
Geosyntec Consultants (31 January 1996)	Summary Report ERP	Provided a status of the environmental restoration plan (ERP). Impacted areas were remediated to approved action levels. ERP addresses oil production and injection well equipment, drilling mud pits, pipelines, and asphalt-like material
Geosyntec Consultants (1 July 1996 Draft)	Soils Below Main Site Tank Farm Area	Vertical extent of impact below the Main Site Tank Farm is generally less than 8 ft (2 m). The average TRPH detected ranged from approximately 12 ppm to 41,000 ppm. VOC and SVOC not detected and metals were representative of typical background concentrations
Geosyntec Consultants (1 April 1999)	Phase I Environmental Site Assessment	This report updated the Phase I Environmental Site Assessment performed in 1993
Geosyntec Consultants (1 November 2001)	Environmental Assessment	This report includes a description of additional site investigation activities conducted May through August 2001. The report presents the nature and extent of potential impacts to soil and groundwater at each of the REC areas. 222 trenches/borings were advanced, along with 10 groundwater monitoring wells. An estimated 77,000 CY of impacted soil exists, 4,000 CY of concrete, 93,000 CY of asphaltic like material used as roadway base and paving, and 40,000 CY of remediated soils. Also identified a free-product area on top of groundwater around REC 2 and soil gas bubbling to the surface near REC 2.
Geosyntec Consultants (1 July 2002)	Assessment of Cement Return Area	Performed in response to the CAO issued by the RWQCB. Based on the results of this preliminary evaluation, approximately 750 yd3 of stained soil requiring mitigation was present in the cement return area. Hydrocarbon-impacted soils in the cement return area were later excavated by WNOC.
Geosyntec Consultants (2 December 2002)	Lowland Stockpile Assessment	Performed in response to the CAO issued by the RWQCB. In summary, it appears that a total of 2.87 acres of the area may have been disturbed at the Site by either concrete debris or soils, or clearing areas of vegetation. Impacts to wetland function and beneficial use due to these disturbances have been limited to those associated with wildlife habitat and nutrient cycling largely relating to the loss of vegetation. This area of the wetlands was later addressed by WNOC.
Geosyntec Consultants (2 December 2002)	Environmental Assessment Summary, Remedial Action Plan, Free Product Area	Summarizes the status of investigation in the Tank Farm Area and proposes a remedy to address the presence of free product floating on top of groundwater.
Geosyntec Consultants (3 March 2003)	Surface Water Sampling and Laboratory Data	Performed in response to the CAO issued by the RWQCB. This transmittal documents that surface water quality is within acceptable standards.
Geosyntec Consultants (10 November 2005)	Environmental Site Assessment and Preliminary Site Remediation Budget Estimate	Report prepared for Cherokee to summarize known environmental conditions at the NBR and provide a preliminary budget estimate to remediate the Site considering a mixed Site reuse including residential, commercial, park, roads, open space and wetland.

Notes: VOC = Volatile Organic Compound
SVOC = Semi-Volatile Organic Compounds
ppm = parts per million
mg/l = micrograms per liter
BTEX = Benzene, Toluene, Ethylbenzene, and Xylenes

Geosyntec consultants

Table 3-2 Identified Off-Site Facilities from EDR Database
Newport Banning Ranch
Orange County, California

Facility Information	EDR Map Location ID	Approximate Proximity to Newport Banning Ranch Property[1]	Databases on Which the Facility is Listed	Lead Regulatory Agency	Potential Chemicals	Potential Media Affected	Comments on Database Listing	REC	pVIC
CALIFORNIA EXPLORATION CO 18TH / WHITTIER AVE COSTA MESA, CA 92627	F30	0.19 miles east	ENVIROSTOR, Cortese	RWQCB (previously DTSC)	Tank bottom wastes, oil-water separator sludge, and unspecified aqueous solution	None specified	In 1994, the DTSC determined that no further action was required at the facility and the case was referred to the RWQCB. Database records reviewed in the 2008 EDR report did not provide any additional or new information regarding the current status of this facility. Based on the close proximity of this facility to the Site, further evaluation of its current regulatory status and extent of potential contamination may be warranted.	Yes	Yes
NEWPORT TERRACE LANDFILL (CLOSED) 19TH / BALBOA NEWPORT BEACH, CA 92663	65	0.1 miles northeast	SWF\LF, WMUDS/SWAT	OC HCA	Municipal solid waste	None specified	Quang Nguyen [1998], Head of Closed Sites for the OC HCA, reported in 1998 that he was not aware of impacts to groundwater presently associated with the landfill. Database records reviewed in the 2008 EDR report did not provide any additional or new information regarding the current status of this facility. Based on the close proximity of this facility to the Site, further evaluation of its current regulatory status and extent of potential contamination may be warranted.	Yes	Yes
THE GRAND PLAN - EATON / NEXUS 1640 MONROVIA AVENUE COSTA MESA, CA 92627	S93	0.32 miles east	FINDS, SLIC, CHMIRS, VCP, HAZNET, AIRS, ENVIROSTOR, Orange Co. Industrial Site	DTSC, OC HCA	Tetrachloroethylene (PCE), Other Volatile Organic Compounds (VOCs)	Soil, soil vapor, and groundwater	The facility is active on the Voluntary Cleanup Program to address identified tetrachloroethylene (PCE) contamination in soil, soil vapor, and groundwater. Historical records indicate that the property has been listed as a transfer station for halogenated organic compounds, hydrocarbon solvents, waste oil, and mixed oil. The property is also identified for an unspecified release of halogenated solvents, although the case is listed as closed in November 1994 by the OC HCA (oversight agency at that time). DTSC records indicate that a Removal Action Completion Report is expected sometime in 2008. Further evaluation of the current status of remediation at the facility and extent of the contamination may be warranted.	Yes	Yes
HUGHES AIRCRAFT / FUTURE NEWPORT HEALTH CARE FACILITY 500 SUPERIOR NEWPORT BEACH, CA 92660	AT227	0.45 miles east	CERC-NFRAP, CORRACTS, RCRA-TSDF, LUST, ENVIROSTOR, RCRA-SQG, FINDS, HAZNET	RWQCB	None specified	Other groundwater affected (uses other than drinking water)	The facility is listed primarily due to a leaking solvents UST which had contaminated groundwater. The facility is also listed for a leaking diesel underground storage tank, although impacts were listed to include soil only and the case is listed as closed by the State and regional water boards. The facility is listed as a Transfer, Storage, Disposal Facility (TSDF) and small-quantity generator of hazardous wastes and is on record as submitting hazardous waste manifests to the DTSC. Numerous violations were listed, although these were "land-ban" and other "oversights." The reviewed database records indicate that the RWQCB has concluded that migration of contaminated groundwater and current human exposures are "under control." The facility was previously removed from the CERCLIS and designated as NFRAP. Based on the close proximity to the Site, further evaluation of the current status of remediation at the facility and extent of groundwater contamination may be warranted.	Yes	Yes
HIXSON METAL FINISHING 829 PRODUCTION PLACE NEWPORT BEACH, CA 92663	AK182	0.33 miles east	CERC-NFRAP, FINDS, HAZNET, RCRA-LQG, UST, CA FID UST, HIST UST, SWEEPS UST, CHMIRS	DTSC, RWQCB	Hydrocyanic Gas (HCN)	None specified	The facility is listed as being removed from CERCLIS and designated as NFRAP on 23 January 1996, following a potential for an atmospheric release during a facility fire. A fire at the facility posed a threat of an uncontrolled chemical release, particularly HCN, and prompted the evacuation of 500 nearby residents. The facility is also listed as a large-quantity generator of hazardous wastes and is on record as submitting hazardous waste manifests to the DTSC. Several "written informal" violations are on file for the facility. The facility is also listed because of an active fuel underground storage tank. No releases from this facility were listed in the database report. The facility was also listed for the run-off water generated during fire-fighting activities and that no hazardous materials were released. The threat to water quality was noted "minor."	No	No
ASCON LANDFILL 21641 MAGNOLIA STREET HUNTINGTON BEACH, CA 92648	262	1.24 miles northwest	HIST Cal-Sites, CA BOND EXP. PLAN, RESPONSE, ENVIROSTOR, HAZNET, LIENS	DTSC	Dichlorodiphenyldichloroethylene (DDE), Total Petroleum Hydrocarbons (TPH), Metals, Polychlorinated Biphenyls (PCBS), Polyaromatic Hydrocarbons (PAHS), Semi-Volatile Organic Compounds (SVOCS), (VOCs)	Other groundwater affected (uses other than drinking water), and soil	The Ascon Landfill Site is a vacant 38-acre parcel which formerly operated as a landfill from 1938 through 1984. Much of the waste disposed at the Site in its early years came from oil drilling operations. A Feasibility Study Report was completed for this facility on 17 August 2007 and a Remedial Action Workplan is expected to be completed sometime in 2008. Newport Banning Ranch is hydraulically bounded to the west by the mouth of the Santa Ana River. This facility is located west of the Santa Ana River, creating limited potential for impacts to the Site.	No	No

Table 3-2 Identified Off-Site Facilities from EDR Database (continued)
Newport Banning Ranch
Orange County, California

Facility Information	EDR Map Location ID	Approximate Proximity to Newport Banning Ranch Property(1)	Databases on Which the Facility is Listed	Lead Regulatory Agency	Potential Chemicals	Potential Media Affected	Comments on Database Listing	REC	pVIC
THRIFTY OIL #139 799 19TH STREET COSTA MESA , CA 92627	AQ218	0.78 miles east	Cortese, LUST, HAZNET	ORANGE COUNTY LOP	Methyl tert-butyl ether (MTBE)	Other groundwater affected (uses other than drinking water)	Quarterly Monitoring and Remedial action (cleanup) is currently underway at this facility. This facility is considered to have a limited potential for impacts to NBR due to its distance from the Site.	No	No
WINALL OIL SERVICE STATION 790 19th STREET COSTA MESA, CA 92627	AQ220	0.81 miles east	Cortese, LUST	ORANGE COUNTY LOP	MTBE	Other groundwater affected (uses other than drinking water)	Quarterly Monitoring and Remedial action (cleanup) is currently underway at this facility. This facility is considered to have a limited potential for impacts to NBR due to its distance from the Site.	No	No
MOBIL #18-KBV 21502 BROOKHURST HUNTINGTON BEACH , CA 92646	AU231	0.54 miles north	Cortese, LUST, HAZNET, UST, SWEEPS UST	ORANGE COUNTY LOP	TPH, Benzene, MTBE	Other groundwater affected (uses other than drinking water)	Remedial action (cleanup) is currently underway at this facility. This facility is located west of the Santa Ana River, creating limited potential for impacts to the Site.	No	No
TOSCO - 76 #5285 21471 BROOKHURST HUNTINGTON BEACH , CA 92646	AU243	0.6 miles north	Cortese, LUST CA FID UST, SWEEPS UST	ORANGE COUNTY LOP	MTBE	Other groundwater affected (uses other than drinking water)	Quarterly Monitoring and Remedial action (cleanup) is currently underway at this facility. This facility is located west of the Santa Ana River, creating limited potential for impacts to the Site.	No	No
ARCO #6060 21452 BROOKHURST HUNTINGTON BEACH , CA 92646	AY225	0.65 miles north	Cortese, LUST, CA FID UST, UST,	ORANGE COUNTY LOP	MTBE	Other groundwater affected (uses other than drinking water)	Quarterly Monitoring and Remedial action (cleanup) is currently underway at this facility. This facility is located west of the Santa Ana River, creating limited potential for impacts to the Site.	No	No
TEXACO 21501 BROOKHURST ST HUNTINGTON BEACH, CA 92646	AU233	0.6 miles north	HAZNET, LUST, DRY CLEANERS, HIST LUST	ORANGE COUNTY LOP	MTBE	Other groundwater affected (uses other than drinking water)	Quarterly Monitoring and Remedial action (cleanup) is currently underway at this facility. This facility is located west of the Santa Ana River, creating limited potential for impacts to the Site.	No	No
GOLDEN TOUCH CLEANERS 2700 W PACIFIC COAST HWY ALISO VIEJO, CA 92663	Not Reported (On EDR Orphan List)	0.85 miles southeast	HAZNET, DRY CLEANERS	None specified	Trichloroethylene (TCE), PCE, Organics	None specified	Case Open. This facility is considered to have a limited potential for impacts to NBR due to its distance from the Site.	No	No

Notes: (1) Distance measured from approximate closest border of Site Property
DTSC - Department of Toxic Substance Control
RWQCB - Regional Water Quality Control Board
pVIC - Potential Vapor Intrusion Condition (pVIC has not been evaluated per ASTM E 2600 tiered screening approach)
LOP - Local Oversight Program
Information Source: EDR Report, 19 March 2008

Table 3-3 Potential Recognized Environmental Conditions
Newport Banning Ranch
Orange County, California

REC[1]	DESIGNATION	PRIMARY ENVIRONMENTAL ISSUE OF CONCERN AND/OR PRIMARY CHEMICAL PRESENT	Site INVESTIGATION	REMEDIATION NEEDED[2]
REC 1	Maintenance Shop / Warehouse	• waste oil sumps • stockpiled transformers • hazardous substances and petroleum hydrocarbons in use • abandoned vehicles • hydrocarbons • VOC / chlorinated compounds • semi-VOC	Yes	Likely
REC 2	Main Site Tank Farm	• above ground storage tanks • oil and gas dewatering operations • natural gas treatment • underground sumps • hydrocarbons • VOC / Semi-VOC • Free Product Recovery System	Yes	Likely
REC 3	Air Compression Plant (currently inactive and being dismantled)	• above ground storage tanks • vehicle fueling area (near) • parts cleaning trough • underground sumps • hydrocarbons	Yes	Likely
REC 4	Steam Generation Plant (currently inactive and being dismantled)	• possible chemical spills and/or leaks from past operations • hydrocarbons	Yes	Likely
REC 5	Water Softening Plant (currently inactive and being dismantled)	• above ground storage tanks • possible chemical spills and/or leaks from past operations	Yes	Unlikely
REC 6	Secondary Tank Farm (currently inactive and decommissioned)	• above ground storage tanks • oil and gas dewatering operations • natural gas treatment • underground sumps • hydrocarbons	Yes	Likely
REC 7	Pilot-Scale Bioremediation Cell	• bio-treatment cell area • stockpiled, unlined, impacted soil • stockpiled concrete return • treated soil stockpile canyons (near) • hydrocarbons	Yes	Likely
REC 8	Former Sumps and Clarifiers	• possible leaching of crude oil from the sumps/clarifiers to the ground • hydrocarbons	Yes	Likely

Table 3-3 Potential Recognized Environmental Conditions (continued)
Newport Banning Ranch
Orange County, California

REC[1]	DESIGNATION	PRIMARY ENVIRONMENTAL ISSUE OF CONCERN AND/OR PRIMARY CHEMICAL PRESENT	Site INVESTIGATION	REMEDIATION NEEDED[2]
REC 9	Electrical and Transformer Storage (including telephone poles)	• possible PCB leaks from electrical transformers • PCB • Creosote on telephone poles • hydrocarbons	Yes	Likely
REC 10	Transformer Mounts	• possible PCB leaks from electrical transformers • PCB	Yes	Unlikely to Limited
REC 11	Offices / Changing Rooms	• Leach field • septic wastes • possible solid waste disposal areas (near)	No	Possible (leach field)
REC 12	City of Newport Beach Tank Farm (boundary conditions)	• above ground storage tanks • oil and gas dewatering operations • natural gas treatment • underground sumps	Yes	Unlikely to Limited
REC 13	Underground Storage Tank and Fuel Pump (currently inactive and decommissioned)	• possible gasoline leaks from UST • hydrocarbons	Yes	Unlikely to Limited
REC 14	Coast Watch Station (currently inactive and decommissioned)	• miscellaneous debris • municipal solid waste	No	Possible
REC 15	Oil and Gas Production Equipment Storage	• possible leaching of materials from the equipment to the ground • hydrocarbons	Yes	Unlikely
REC 16	Concrete Cellar Stockpile and Miscellaneous Debris Stockpiles	• possible leaching of materials from the debris to the ground • hydrocarbons • Compromised Visqueen Sheeting	No	Unlikely
REC 17	Abandoned Shack	• possible chemical spills and/or leaks from past operations • hydrocarbons	Yes	Unlikely
REC 18	Miscellaneous Debris and Soil Stockpiles (lowland)	• possible leaching of materials from the equipment and debris to the ground • hydrocarbons	Yes	Likely
REC 19	Miscellaneous Debris Stockpiles (upland)	• possible leaching of materials from the equipment and debris to the ground • hydrocarbons	No	Possible
REC 20	Soil Stockpiles	• possible leaching of materials from the soil to the ground • hydrocarbons	Yes	Likely

Table 3-3 Potential Recognized Environmental Conditions (continued)
Newport Banning Ranch
Orange County, California

REC[1]	DESIGNATION	PRIMARY ENVIRONMENTAL ISSUE OF CONCERN AND/OR PRIMARY CHEMICAL PRESENT	Site INVESTIGATION	REMEDIATION NEEDED[2]
REC 21	Equipment Storage	• possible leaching of materials from the equipment to the ground • potential oil leaks • hydrocarbons	No	Possible
REC 22	Main Office	• septic wastes • possible solid waste disposal areas (near)	No	Possible (leach well)
REC 23	Linear Features (roadways and pipelines)	• tank bottom materials • hydrocarbons • debris	Yes	Likely
REC 24	Oil Wells	• hydrocarbons • concrete cellar • debris	Yes	Likely
REC 25	Drilling Mud Sumps	• hydrocarbons • metals • drilling mud	Yes	Likely
REC 26	Vadose Zone	• hydrocarbons • VOC • off-gassing	Yes	Likely
REC 27	Sublease Area	• hydrocarbons • chemical-impacted soil	No	Unknown
Historical REC 1	Cement Return Area	• Oil-impacted soil • Crude Oil	Yes	Yes - Completed
Historical REC 2	Wetland Fill Area	• Miscellaneous Debris • Oil impacted Soil	Yes	Yes - Completed
Historical REC 3	Surface water/Storm water Quality Issue (includes area near the three drainage culverts)	• Unknown	Yes	Yes - Completed

Notes: (1) REC: Recognized Environmental Condition (as defined by ASTM E 1527-05).
(2) The need for, nature, and extent of remediation is dependant on the future land use of the Site and the regulatory requirements at the time of land use modifications.

Table 4-1 Hazardous Substances and Petroleum Hydrocarbons Currently or Historically Used at the Newport Banning Ranch
Newport Banning Ranch
Orange County, California

Chemical Name	Compressor Plant	Tank Farm	Maintenance Shop	Across Site
Diesel fuel	✓			✓
Gasoline	✓			✓
Motor Oil			✓	
Stoddard Solvent (Petroleum Naphtha)		✓	✓	
Degreaser (contains toluene, acetone, methanol, MEK, 2-Butoxyethanol)			✓	
Automatic Transmission Fluid			✓	
Aquanox EB-8026		✓		
Calnox SI-4027		✓		
Natural Gas				✓
Sodium Silicate		✓		
Methanol		✓		
Isopropyl Alcohol		✓		
Crude Oil		✓		✓
Acetylene			✓	
Penetrating Oil			✓	
Insecticide (contains Baygon and Methylene chloride)			✓	
SC-555 Corrosion Inhibitor				✓
Hydraulic Fluid			✓	
West B-525				✓
C-668, Corrosion-inhibitor (Imidoamine, also contains Isopropanol)				✓

Geosyntec consultants

Figures

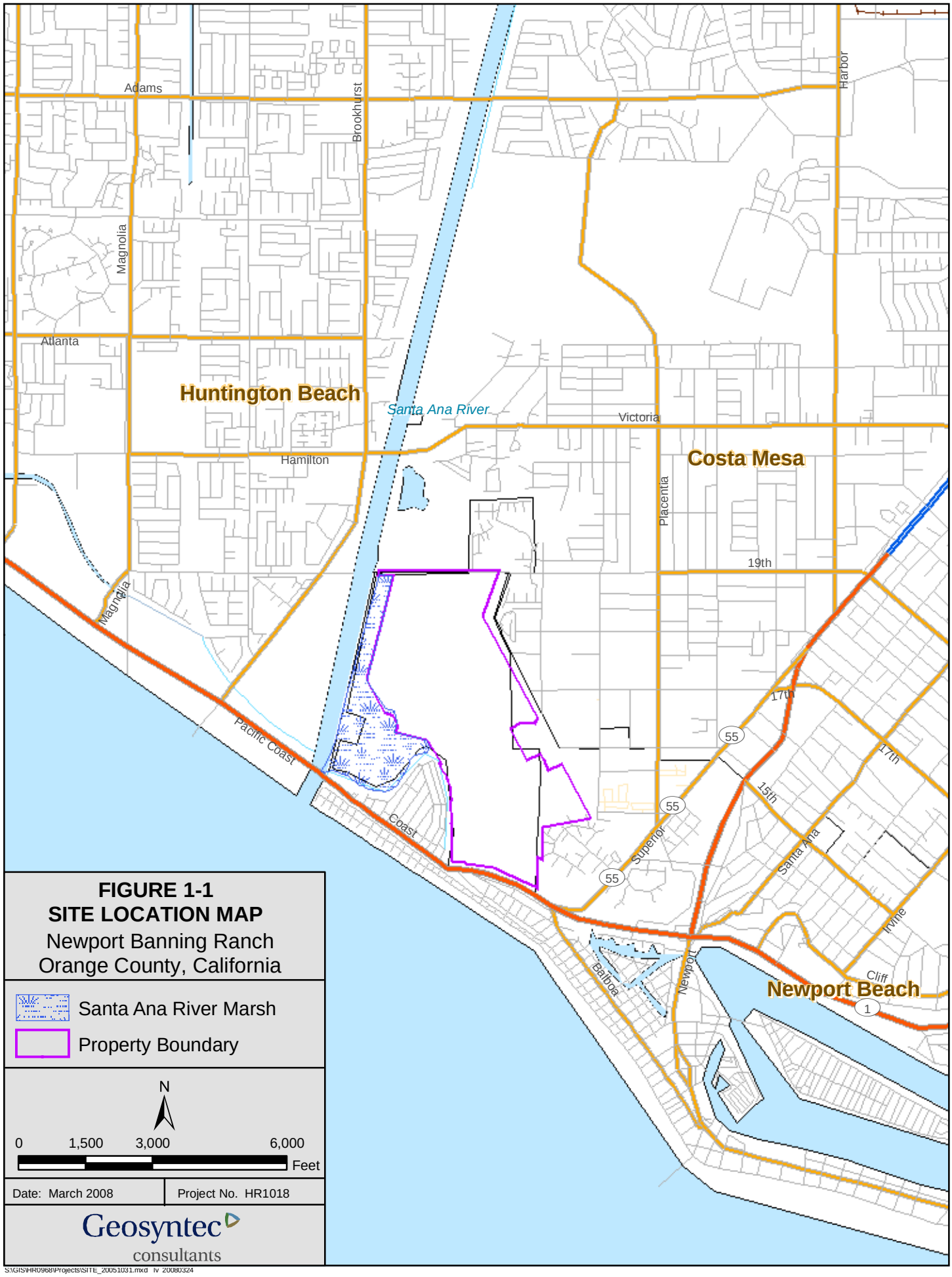


FIGURE 1-1
SITE LOCATION MAP
Newport Banning Ranch
Orange County, California

Santa Ana River Marsh

Property Boundary

N

0 1,500 3,000 6,000 Feet

Date: March 2008 | Project No. HR1018

Geosyntec consultants

S:\GIS\HR0968\Projects\SITE_20051031.mxd lv 20080324

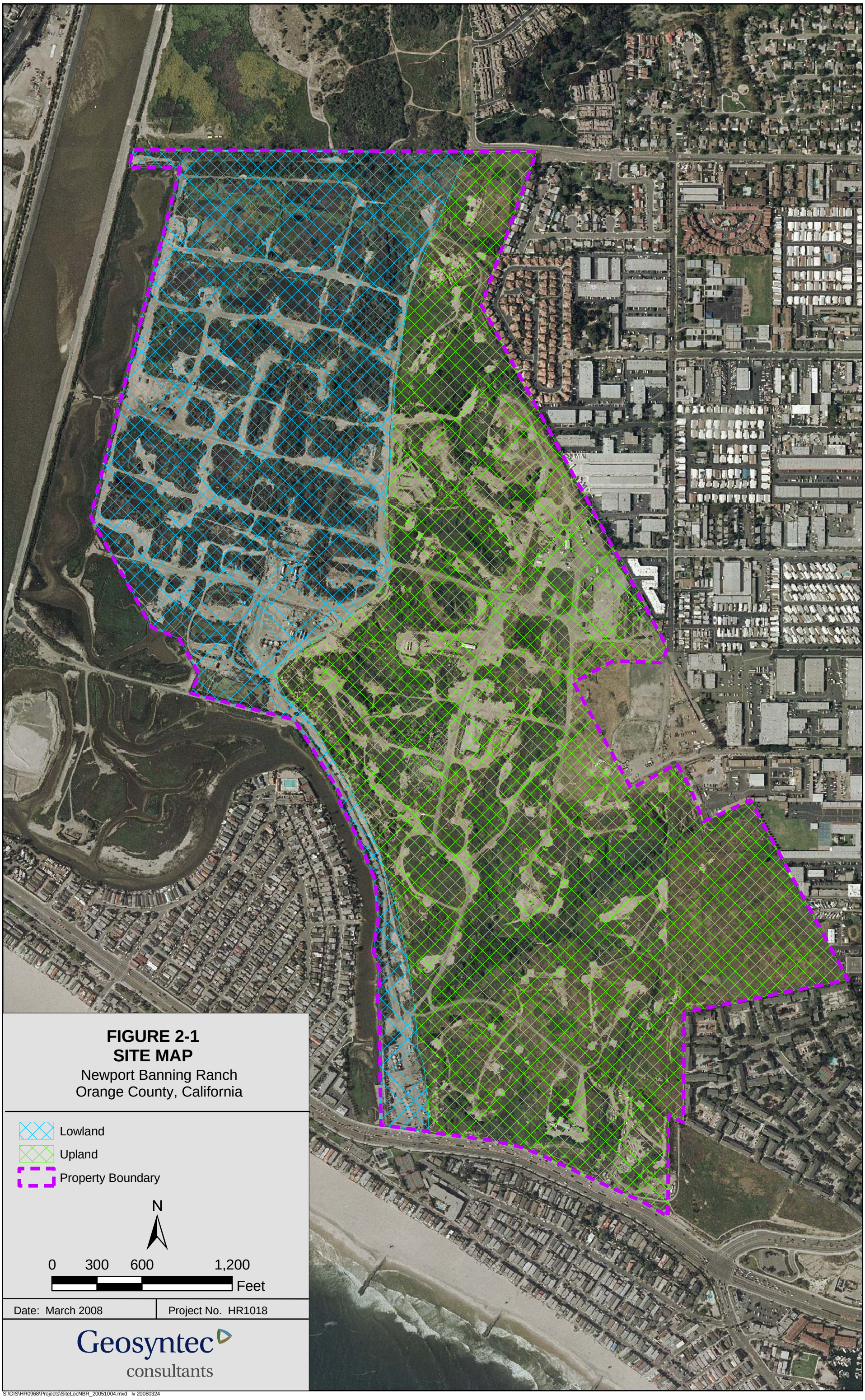
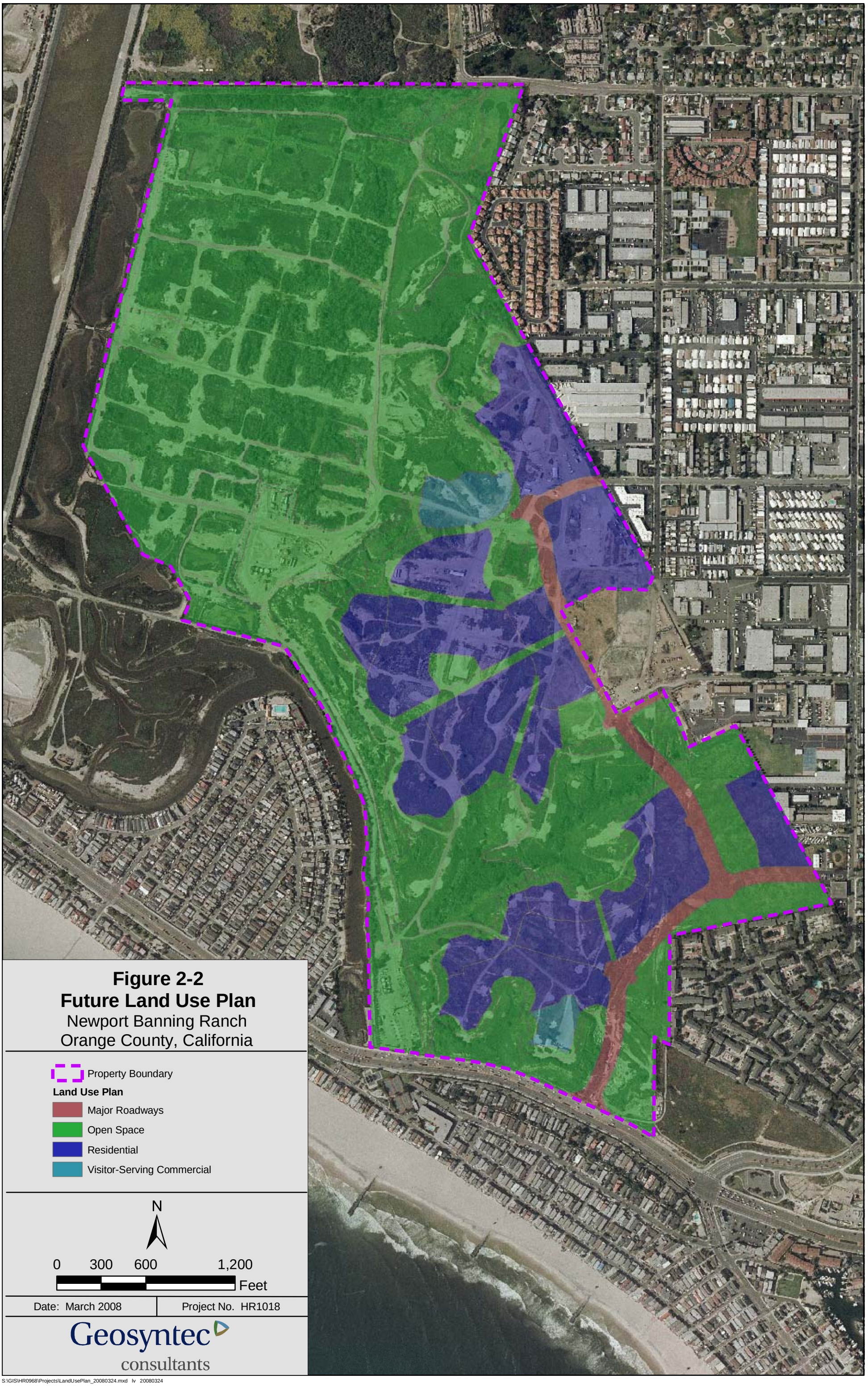


FIGURE 2-1
SITE MAP
Newport Banning Ranch
Orange County, California
Lowland
Upland
Property Boundary
N
0
300
600
1,200
Feet
Date: March 2008
Project No. HR1018
Geosyntec
consultants
S:\GIS\HR0968\Projects\SiteLocNBR_20051004.mxd lv 20080324



S:\GIS\HR0968\Projects\LandUsePlan_20080324.mxd lv 20080324

REC 15
OIL AND GAS PRODUCTION
EQUIPMENT STORAGE

REC 17
ABANDONED
SHACK

REC 1
MAINTENANCE
SHOP/WAREHOUSE

REC 9
ELECTRICAL AND
TRANSFORMER
STORAGE

REC 18
MISCELLANEOUS DEBRIS
AND SOIL STOCKPILES

REC 7
PILOT SCALE
BIOTREATMENT CELL

REC 11
OFFICES
CHANGING ROOM

REC 4
STEAM \GENERATION PLANT
(INACTIVE)

REC 3
AIR COMPRESSOR
PLANT (INACTIVE)

REC 21
EQUIPMENT STORAGE

REC 2
MAIN SITE \TANK FARM (ACTIVE)

HREC 1
CEMENT RETURN AREA

REC 13
UNDERGROUND STORAGE
TANKS AND FUEL PUMP

REC 8
FORMER
SUMPS AND
CLARIFIERS

REC 5
WATER SOFTENING
PLANT (INACTIVE)

REC 10
TRANSFORMER MOUNTS

REC 16
CONCRETE CELLAR STOCKPILE AND
MISCELLANEOUS DEBRIS STOCKPILES

REC 20
SOIL STOCKPILES

Santa Ana\River Marsh

REC 6
SECONDARY
TANK FARM
(ABANDONED)

REC 14
COAST WATCH
STATION

REC 19
MISCELLANEOUS
DEBRIS\STOCKPILES

REC 12
CITY OF NEWPORT BEACH
TANK FARM

REC 22
MAIN OFFICE

REC 27
SUBLEASE AREA

Figure 5-1

REC Locations and Site Reconnaissance Photographs

Newport Banning Ranch
Orange County, California

Note: RECs 23, 25, and 26 and HRECs 2 and 3 are not shown on this figure as they could not be graphically represented in a simple manner. REC 24 (oil wells) is on Figure 5-2. Delineation of RECs is approximate.

REC Locations

Property Boundary

Photo Location and Orientation

N

0 300 600 1,200

Feet

Date: March 2008 | Project No. HR1018

Geosyntec consultants

S:\GIS\HR0968\Projects\Photo_20080320.mxd lv 20080320

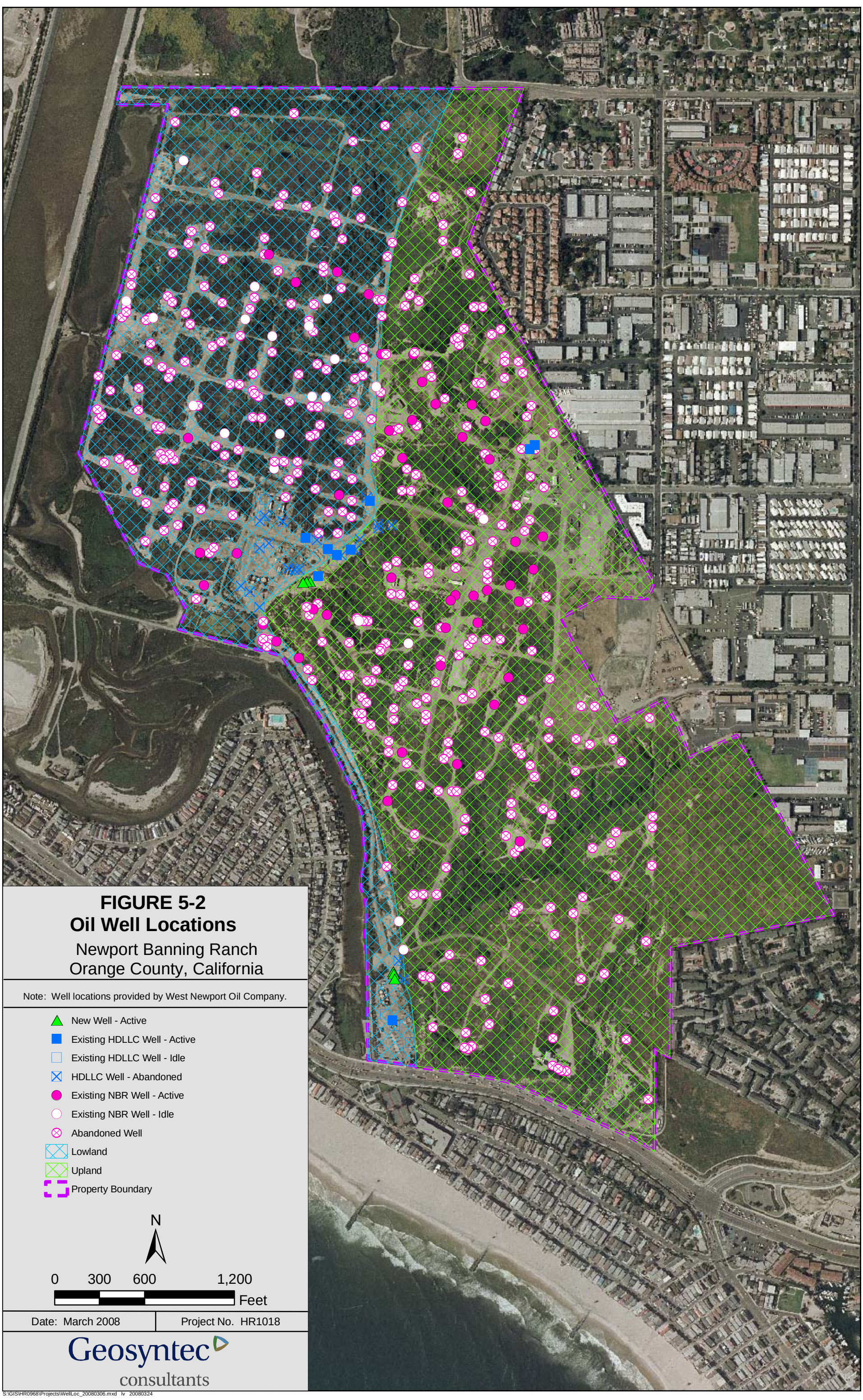


FIGURE 5-2
Oil Well Locations

Newport Banning Ranch
Orange County, California

Note: Well locations provided by West Newport Oil Company.

- New Well - Active
- Existing HDLLC Well - Active
- Existing HDLLC Well - Idle
- HDLLC Well - Abandoned
- Existing NBR Well - Active
- Existing NBR Well - Idle
- Abandoned Well
- Lowland
- Upland
- Property Boundary

N

0 300 600 1,200

Feet

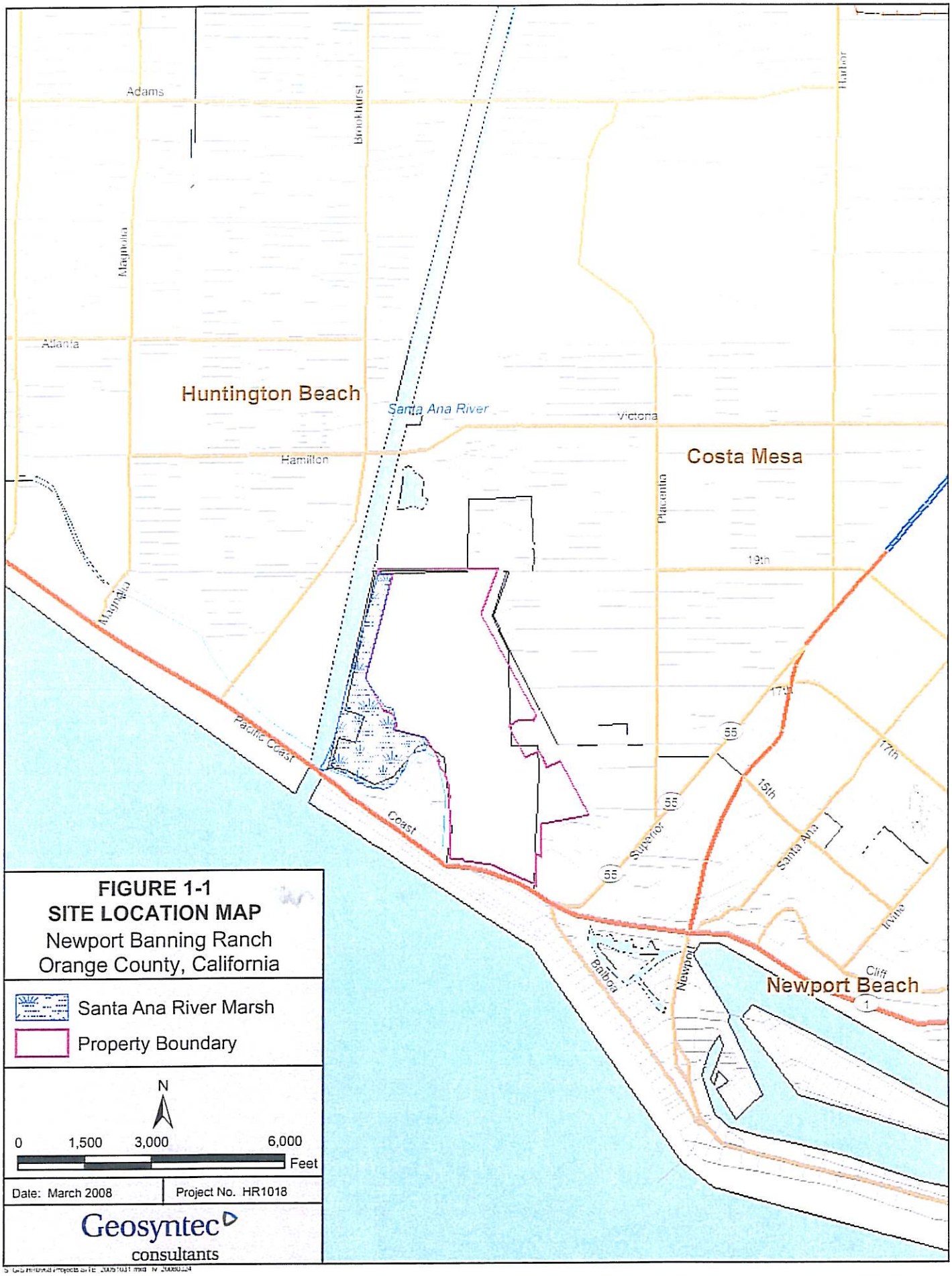
Date: March 2008 | Project No. HR1018

Geosyntec consultants

S:\GIS\HR0968\Projects\WellLoc_20080306.mxd lv 20080324

Geosyntec consultants

Figures


Adams
Brookhurst
Harbor
Magnolia
Atlanta
Huntington Beach
Santa Ana River
Victoria
Hamilton
Costa Mesa
Placentia
19th
Magnolia
Pacific Coast
Coast
17th
55
15th
Superior
Santa Ana
Irvine
Cliff
Balboa
Newport
Newport Beach
1
FIGURE 1-1
SITE LOCATION MAP
Newport Banning Ranch
Orange County, California
Santa Ana River Marsh
Property Boundary
N
0
1,500
3,000
6,000
Feet
Date: March 2008
Project No. HR1018
Geosyntec
consultants

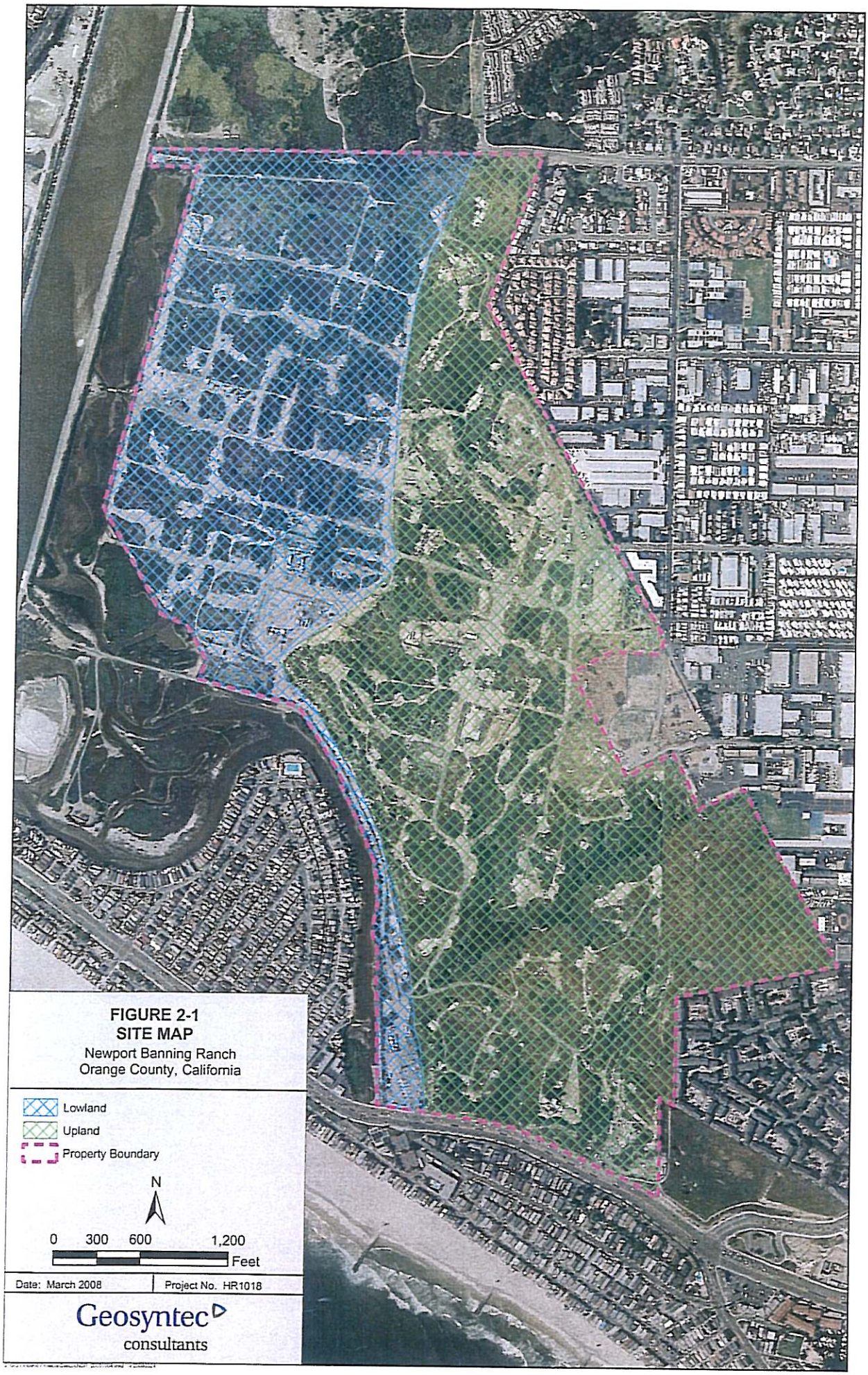


FIGURE 2-1
SITE MAP
Newport Banning Ranch
Orange County, California

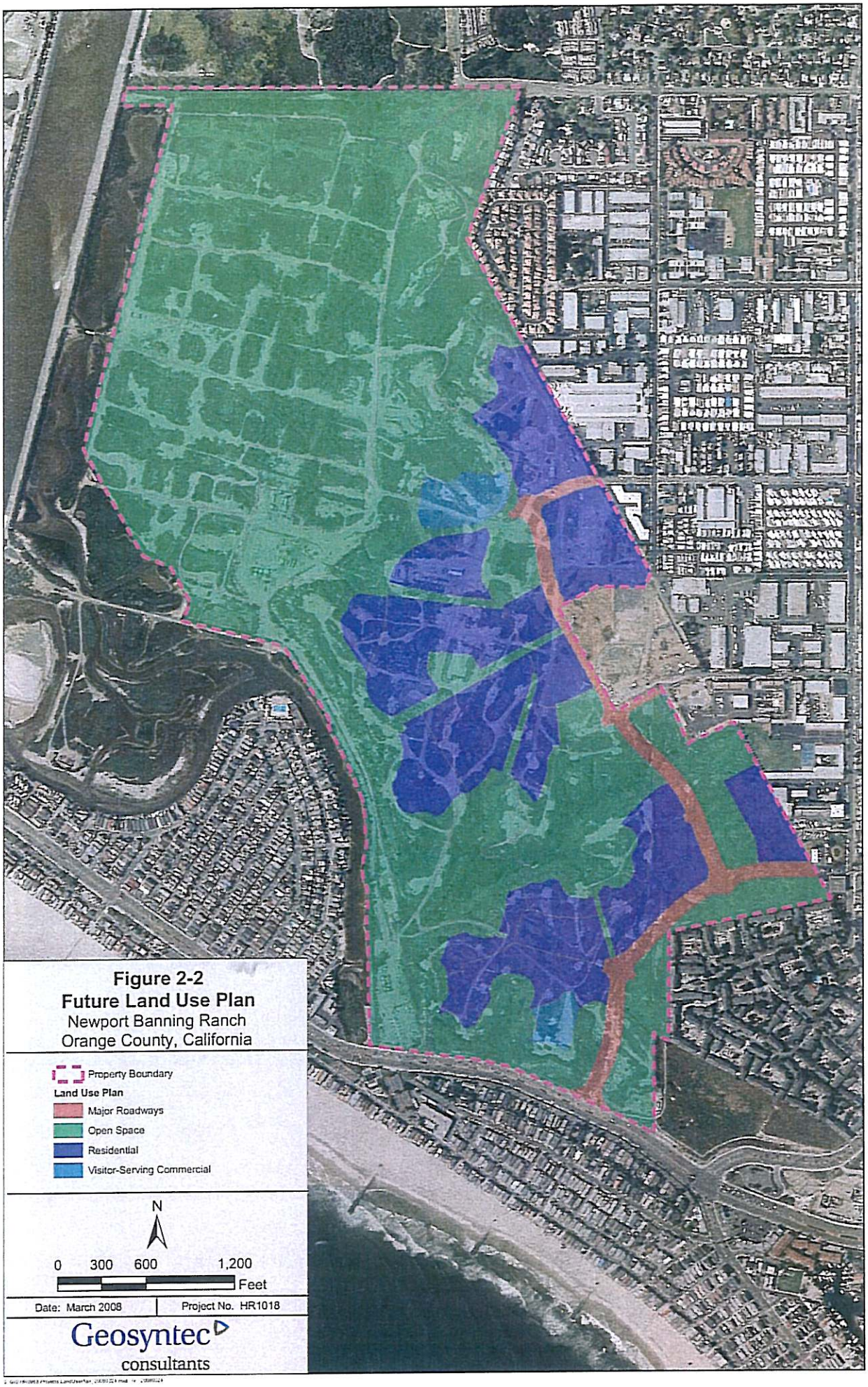


Figure 2-2
Future Land Use Plan
Newport Banning Ranch
Orange County, California

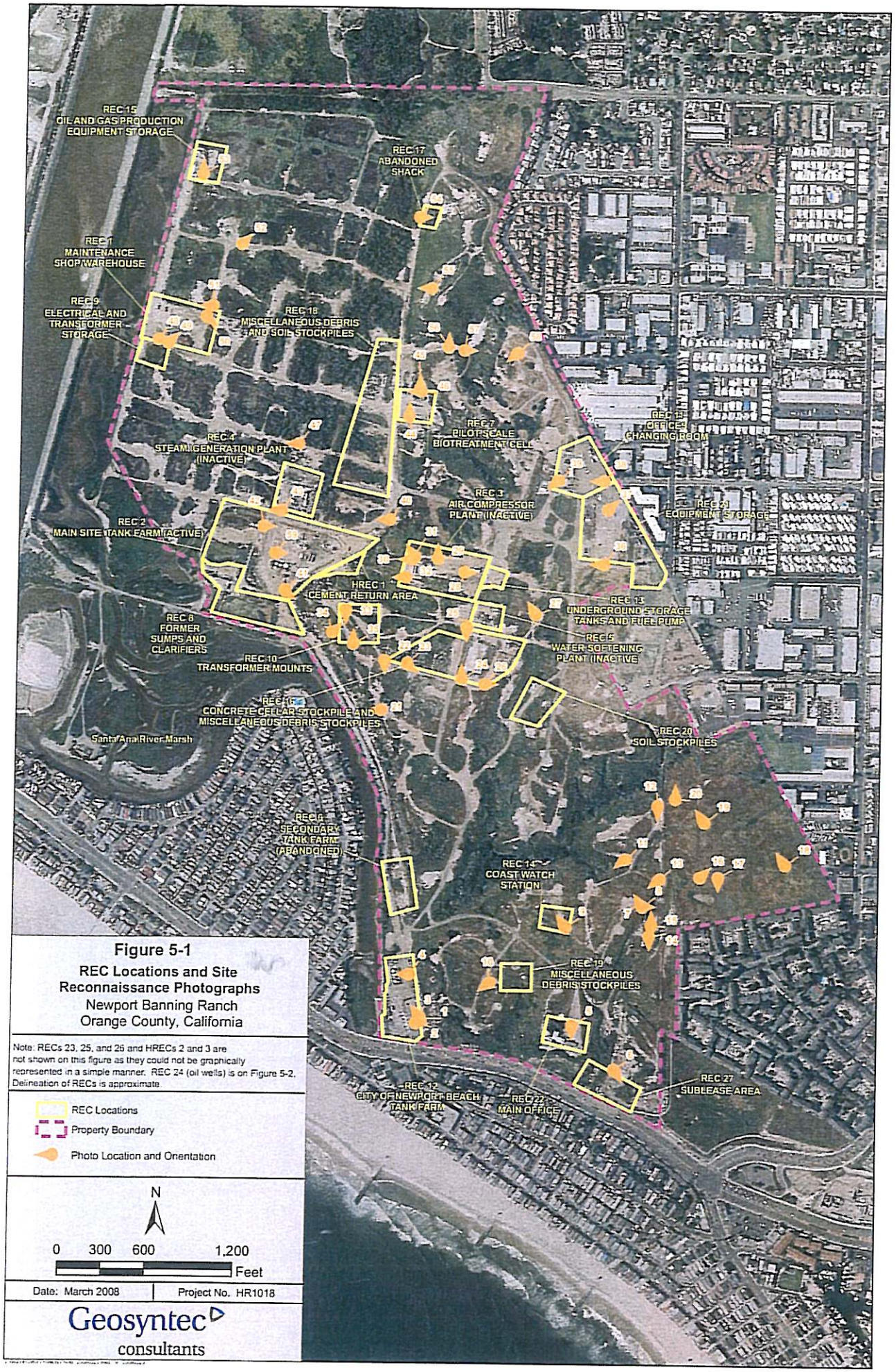


Figure 5-1

REC Locations and Site Reconnaissance Photographs

Newport Banning Ranch
Orange County, California

Note: RECs 23, 25, and 26 and HRECs 2 and 3 are not shown on this figure as they could not be graphically represented in a simple manner. REC 24 (oil wells) is on Figure 5-2. Delineation of RECs is approximate.

REC Locations
Property Boundary
Photo Location and Orientation

N

0 300 600 1,200
Feet

Date: March 2008 | Project No. HR1018

Geosyntec consultants

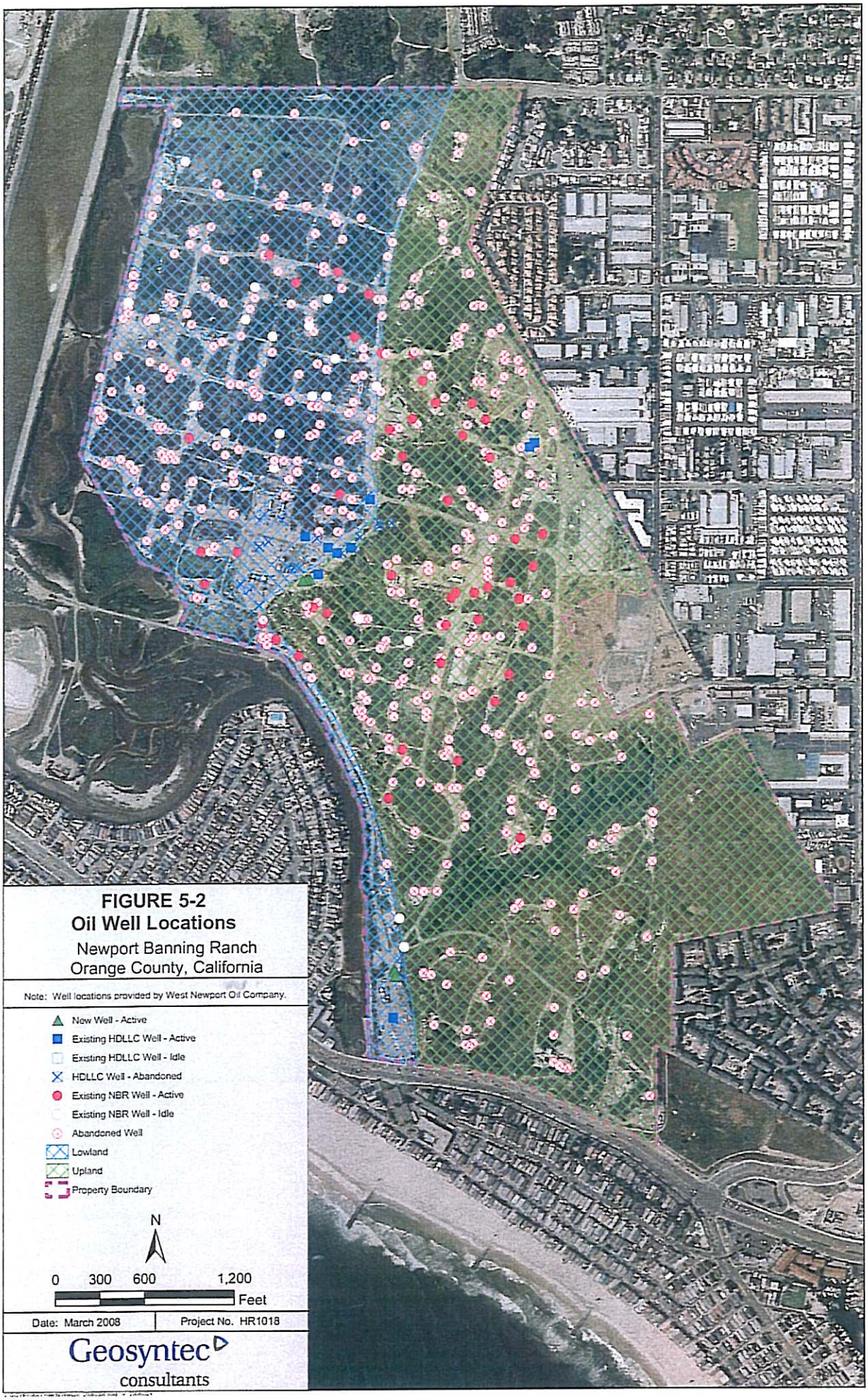


FIGURE 5-2
Oil Well Locations
Newport Banning Ranch
Orange County, California
Note: Well locations provided by West Newport Oil Company.
New Well - Active
Existing HDLLC Well - Active
Existing HDLLC Well - Idle
HDLLC Well - Abandoned
Existing NBR Well - Active
Existing NBR Well - Idle
Abandoned Well
Lowland
Upland
Property Boundary
N
0 300 600 1,200
Feet
Date: March 2008
Project No. HR1018
Geosyntec
consultants

Geosyntec consultants

Appendix F: Site Reconnaissance Photographic Documentation

Photo No. 1 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: City of Newport Beach Oil Wells and Tank Farm Near PCH Entrance, Looking Northwest.
Project: Newport Banning Ranch, Orange County, California

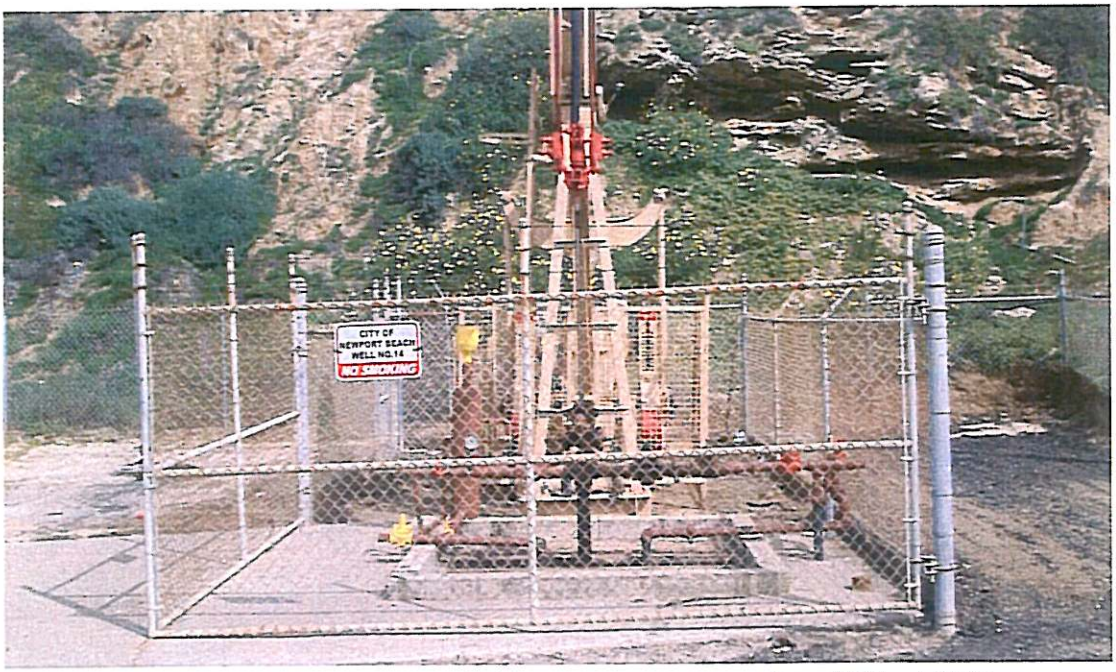


Photo No. 2 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: City of Newport Beach Active Oil Well Near PCH Entrance, Looking East.
Project: Newport Banning Ranch, Orange County, California

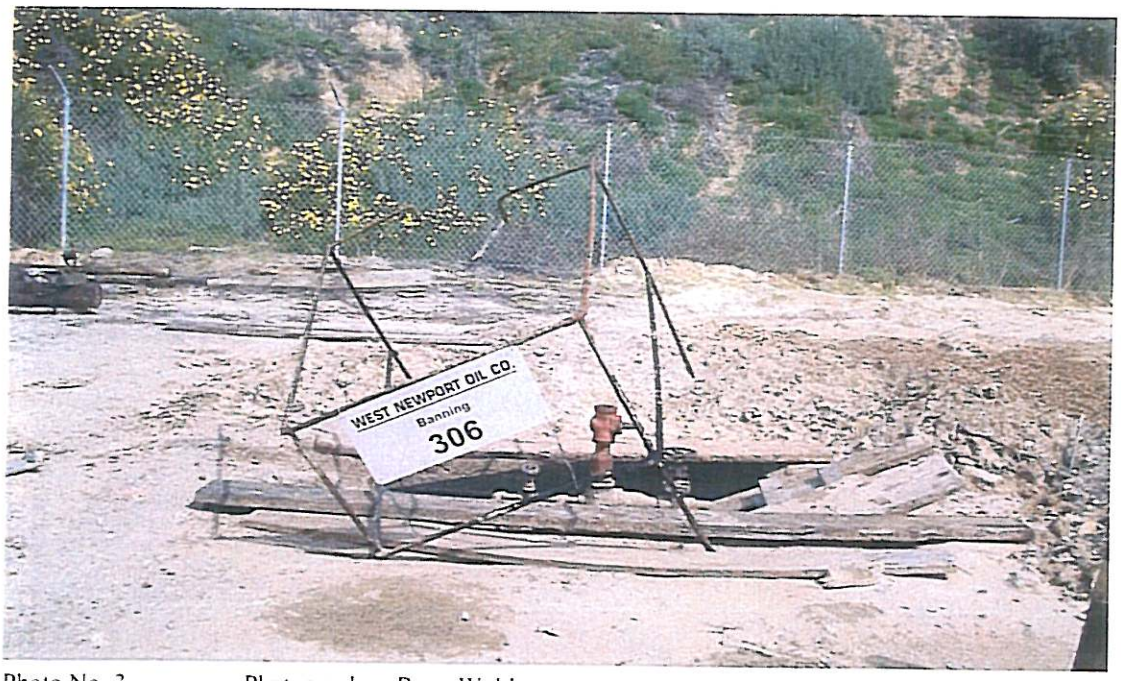


Photo No. 3 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: West Newport Oil Company Abandoned Well, Looking East.
Project: Newport Banning Ranch, Orange County, California

Photo No. 4 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: City of Newport Beach Tank Farm, Looking West.
Project: Newport Banning Ranch, Orange County, California

Photo No. 5 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Main Office & Proposed Area for Future Visitor-Serving Commercial Site, Looking South.
Project: Newport Banning Ranch, Orange County, California

Photo No. 6 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Sublease Area, Looking Southeast.
Project: Newport Banning Ranch, Orange County, California

Photo No. 7 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Proposed Area For Future Residential Land Use, Looking East.
Project: Newport Banning Ranch, Orange County, California

Photo No. 8 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Proposed Area For Future Residential Land Use, Looking Northwest.
Project: Newport Banning Ranch, Orange County, California

Photo No. 9 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Historical Coast Watch Station Area, Looking North.
Project: Newport Banning Ranch, Orange County, California

Photo No. 10 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Abandoned Oil Pipeline (Observed Throughout Property), Looking Southwest.
Project: Newport Banning Ranch, Orange County, California

Photo No. 11 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Miscellaneous Debris Observed In Trench, Looking Southwest.
Project: Newport Banning Ranch, Orange County, California

Photo No. 12 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Proposed Area For Future Residential Land Use, Looking South.
Project: Newport Banning Ranch, Orange County, California

Photo No. 13 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Proposed Area For Future Residential Land Use, Looking Southeast.
Project: Newport Banning Ranch, Orange County, California

Photo No. 14 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Edge of Proposed Area For Future Residential Land Use, Looking South.
Project: Newport Banning Ranch, Orange County, California

Photo No. 15 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Proposed Area For Future Residential Land Use, Looking North.
Project: Newport Banning Ranch, Orange County, California

Photo No. 16 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Proposed Area For Future Residential Land Use and Open Space, Looking Northeast.
Project: Newport Banning Ranch, Orange County, California

Photo No. 17 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Edge of Proposed Area For Future Residential Land Use, Looking South.
Project: Newport Banning Ranch, Orange County, California

Photo No. 18 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Proposed Area For Future Residential Land Use, Looking Northwest.
Project: Newport Banning Ranch, Orange County, California

Photo No. 19 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Proposed Area For Roadway For Future Residential Land Use, Looking Northwest.
Project: Newport Banning Ranch, Orange County, California

Photo No. 20 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Edge of Proposed Area For Future Residential Land Use, Looking North.
Project: Newport Banning Ranch, Orange County, California

Photo No. 21 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Abandoned Oil Well and Miscellaneous Oil Equipment, Looking West.
Project: Newport Banning Ranch, Orange County, California

Photo No. 22 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Concrete Storage and Miscellaneous Debris Stockpiles, Looking South.
Project: Newport Banning Ranch, Orange County, California

Photo No. 23 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Concrete Storage and Miscellaneous Debris Stockpiles, Looking Southeast.
Project: Newport Banning Ranch, Orange County, California

Photo No. 24 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Impacted Soil Storage Area, Looking North.
Project: Newport Banning Ranch, Orange County, California

Photo No. 25 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Impacted Soil Storage Area, Looking South.
Project: Newport Banning Ranch, Orange County, California

Photo No. 26 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Concrete Storage and Miscellaneous Debris Stockpiles, Looking East.
Project: Newport Banning Ranch, Orange County, California

Photo No. 27 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Element Of Inactive Water Softening Plant, Looking Northwest.
Project: Newport Banning Ranch, Orange County, California

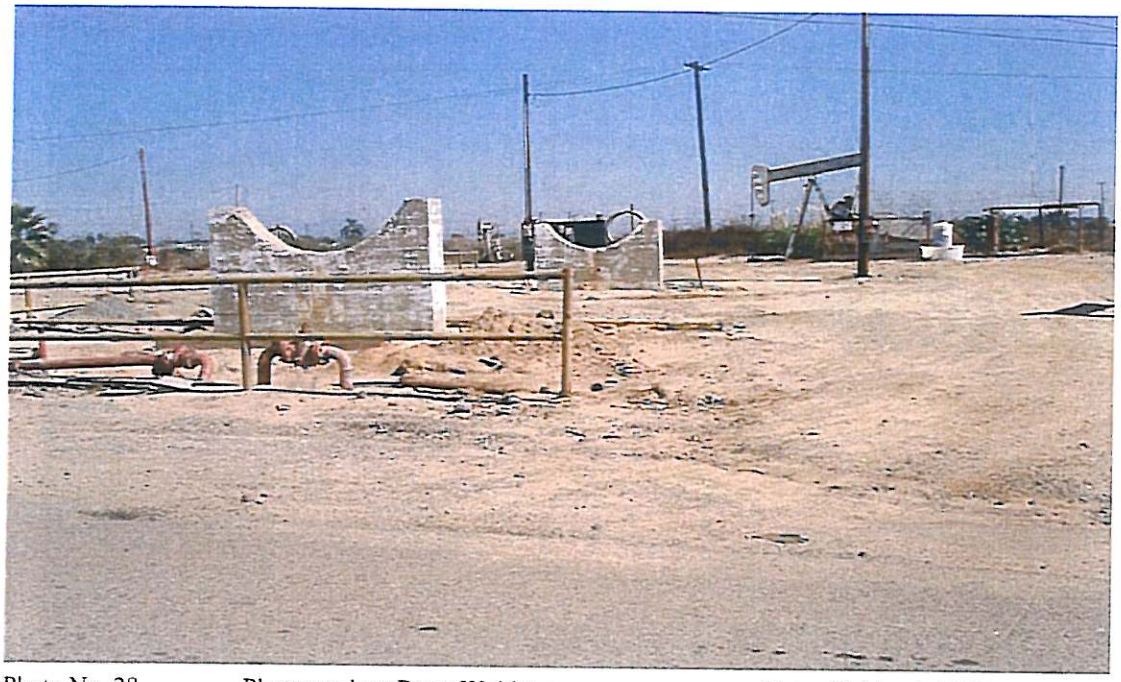


Photo No. 28 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Former AST Mounting Brackets Near Former Gasoline Fill Area, Looking East.
Project: Newport Banning Ranch, Orange County, California

Photo No. 29 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Inactive Air Compressor Plant, Looking North.
Project: Newport Banning Ranch, Orange County, California

Photo No. 30 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Inactive Air Compressor Plant With Miscellaneous Equipment, Looking Northwest.
Project: Newport Banning Ranch, Orange County, California

Photo No. 31 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Concrete Storage and Miscellaneous Debris, Looking West.
Project: Newport Banning Ranch, Orange County, California

Photo No. 32 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Above Ground Storage Tanks, Looking South.
Project: Newport Banning Ranch, Orange County, California

Photo No. 33 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Small Shed Near Area Of Transformer Mounts, Looking South.
Project: Newport Banning Ranch, Orange County, California

Photo No. 34 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Old Storage Shed, Looking Northeast.
Project: Newport Banning Ranch, Orange County, California

Photo No. 35 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Contents of Old Storage Shed, Looking North.
Project: Newport Banning Ranch, Orange County, California

Photo No. 36 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Soil Stockpile Near Equipment Storage Area, Looking West.
Project: Newport Banning Ranch, Orange County, California

Photo No. 37 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Equipment Storage Area Near 17th Street Entrance, Looking Northeast.
Project: Newport Banning Ranch, Orange County, California

Photo No. 38 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Equipment Storage Area and Offices Near 17th Street Entrance, Looking West.
Project: Newport Banning Ranch, Orange County, California

Photo No. 39 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Active Oil Well Near Area Of Office and Changing Rooms, Looking Southwest.
Project: Newport Banning Ranch, Orange County, California

Photo No. 40 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Overview of Main Site Tank Farm, Looking West.
Project: Newport Banning Ranch, Orange County, California

Photo No. 41 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Oil Pipeline Near Main Site Tank Farm, Looking Southeast.
Project: Newport Banning Ranch, Orange County, California

Photo No. 42 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Main Site Tank Farm, Looking East.
Project: Newport Banning Ranch, Orange County, California

Photo No. 43 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Miscellaneous Oil Equipment Near Inactive Steam Generation Plant, Looking West.
Project: Newport Banning Ranch, Orange County, California

Photo No. 44 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Impacted Soil Storage Within the Inactive Biotreatment Cell, Looking North.
Project: Newport Banning Ranch, Orange County, California

Photo No. 45 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Contents of Cinderblock Storage Building, Looking North.
Project: Newport Banning Ranch, Orange County, California

Photo No. 46 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Contents of Cinderblock Storage Building, Looking West.
Project: Newport Banning Ranch, Orange County, California

Photo No. 47 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Linear Oil Features – Pipelines, etc., Looking West.
Project: Newport Banning Ranch, Orange County, California

Photo No. 48 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Abandoned Shed Near Electrical and Transformer Storage, Looking East.
Project: Newport Banning Ranch, Orange County, California

Photo No. 49 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Maintenance Shop / Warehouse, Looking Northeast.
Project: Newport Banning Ranch, Orange County, California

Photo No. 50 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Miscellaneous Vehicle Storage Near Warehouse, Looking Southeast.
Project: Newport Banning Ranch, Orange County, California

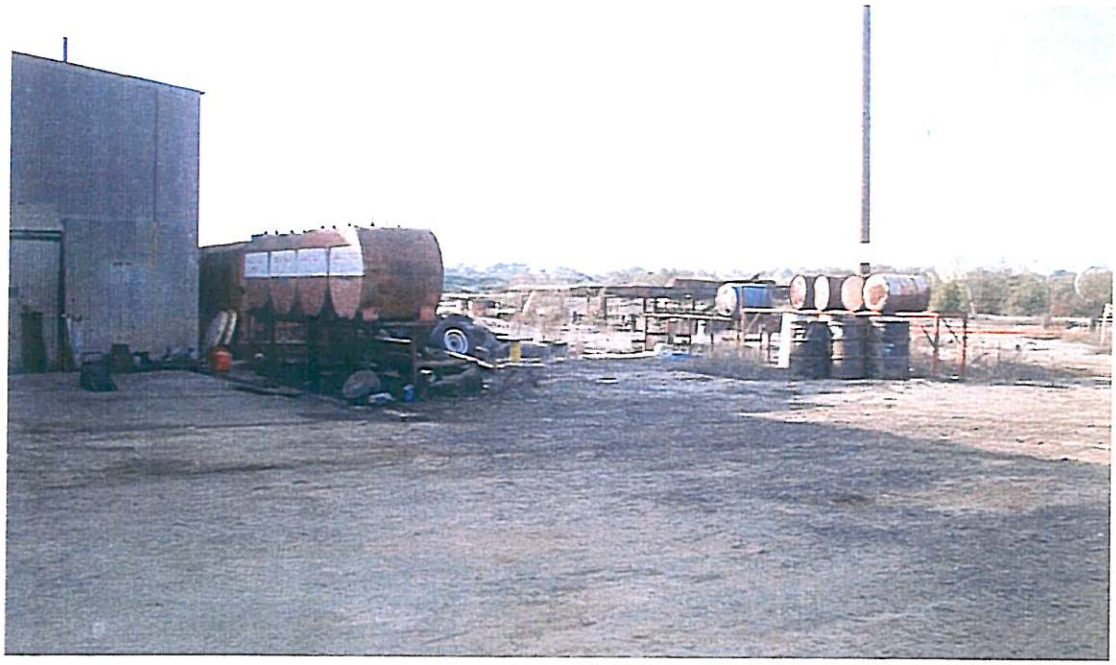


Photo No. 51 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Maintenance Shop / Warehouse, Looking West.
Project: Newport Banning Ranch, Orange County, California

Photo No. 52 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Miscellaneous Debris Near Linear Features, Looking Northeast.
Project: Newport Banning Ranch, Orange County, California

Photo No. 53 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Oil and Gas Production Equipment Storage, Looking North.
Project: Newport Banning Ranch, Orange County, California

Photo No. 54 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Abandoned Shack, Looking East.
Project: Newport Banning Ranch, Orange County, California

Photo No. 55 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Overview of Lowland Open Space, Looking West.
Project: Newport Banning Ranch, Orange County, California

Photo No. 56 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Oil Pipeline - Absent Supports, Looking North.
Project: Newport Banning Ranch, Orange County, California

Photo No. 57 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Miscellaneous Debris, Looking East.
Project: Newport Banning Ranch, Orange County, California

Photo No. 58 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Miscellaneous Equipment Storage Area, Looking Southwest.
Project: Newport Banning Ranch, Orange County, California

Photo No. 59 Photographer: Ryan Wohlstrom Date: 12 March 2008
Description: Solar Powered Belt Skimmer at Main Site Tank Farm, Looking East.
Project: Newport Banning Ranch, Orange County, California