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# W13a

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## STAFF RECOMMENDATION REGULAR CALENDAR

**Permit Number:** E-99-009

**Applicant:** Union Oil Company of California ("Unocal")

**Agent:** Kim Tulledge, Cannon Associates

**Project Location:** Guadalupe Beach area of the Guadalupe oil field, San Luis Obispo County (Exhibit 1).

**Project Description:** Remove 2.29 miles of pipeline; temporarily widen "A" access road; relocate and modify electrical delivery system at the 5X site; excavate the 5X, A2A North, and A5A diluent plumes; install up to 100 post-construction monitoring wells; excavate the Leroy 3, A2A, A1/2X, TB4, D14 and B11 sumps; excavate the Leroy 6 and 5X oil layers; remove the 5X and B11 access roads and the A5A, Y4/A2A and A4 well pads; and, if needed for erosion protection, place up to 100 geobags along the southwest corner of the 5X sheetpile wall and 40 additional geobags along the riverbank at the southwest corner of the oil field.

This application also includes work carried out under emergency permits issued between 1994-1998 for (a) the 1994 partial excavation of the 5X plume; (b) installation of an 1,835-foot long 5X sheetpile wall on the beach; (c) removal of sumps along the southwest corner of the oil field; and (d) placement of 121 geobags along the bank of the Santa Maria River.

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## EXECUTIVE SUMMARY

### Project Description

Unocal is in the process of obtaining all necessary agency approvals to abandon the Guadalupe oil field and remediate petroleum hydrocarbon contamination in the oil field's soil and ground water. Unocal's overall proposed remediation and abandonment project is located in areas of both the County of San Luis Obispo's certified local coastal program ("LCP") permit jurisdiction and the Coastal Commission's retained coastal permit jurisdiction.

In this application, Unocal proposes to conduct the following major activities within the Coastal Commission's area of retained permit jurisdiction:

- ▷ Remove 2.29 miles of abandoned oil pipeline;
- ▷ Temporarily widen the "A" access road to allow for two-way traffic;
- ▷ Relocate and modify the electrical delivery system at the 5X site;
- ▷ Excavate the 5X, A2A North and A5A plumes;
- ▷ Install up to 100 post-construction monitoring wells;
- ▷ Excavate the Leroy 3, A2A, A1/2X, TB4, D14 and B11 sumps;
- ▷ Excavate the 5X and Leroy 6 "oil layers";
- ▷ Remove the 5X and B11 access roads;
- ▷ Remove the Y4/A2A and A4 well pads;
- ▷ If needed for erosion protection, place up to 100 geobags (*i.e.*, large sand bags 8 feet wide by 10 feet long by 3.5 feet high) along the southwest corner of the existing 5X sheetpile wall and 40 additional geobags along the riverbank at the southwest corner of the oil field; and
- ▷ When the 5X plume excavation is complete, remove the 5X sheetpile protection wall.

In addition to the new major activities listed above, Unocal, through this permit application, also seeks follow-up approval for emergency activities carried out under the authority of emergency permits issued by the Coastal Commission's Executive Director between 1994-1998. Those emergency activities include:

- ▷ The 1994 excavation of one-third of the 5X plume;
- ▷ Installation of a 1,835-foot long sheetpile wall on the beach adjacent to the 5X plume;
- ▷ Removal of sumps along the southwest corner of the oil field; and
- ▷ Placement of 121 geobags along the bank of the Santa Maria River.

These emergency permits are discussed in more detail in the Background Section of the Executive Summary.

## **Background**

### ***Soil and Ground Water Petroleum Hydrocarbon Contamination at the Oil Field***

In January 1988, petroleum hydrocarbons were first discovered by surfers on the beach and in the ocean at the Guadalupe oil field. In January 1990, California Department of Fish and Game ("CDFG") staff noticed diluent surfacing in the sand in front of the area of the site known as the 5X well pad. At that time, the Central Coast Regional Water Quality Control Board ("RWQCB") ordered Unocal to investigate the source of the diluent spill. In February 1990, Unocal reported oil on the beach, shut down field operations, and discontinued use of diluent in its production operations.

In March 1990, Unocal installed a subsurface bentonite slurry wall in front of the 5X well area to stop diluent from reaching the ocean. The CDFG and the RWQCB also discovered diluent surfacing at a site called C-12 that is adjacent to the river estuary. In December 1991, Unocal installed a subsurface high density polyethylene ("HDPE") wall at the C-12 site to prevent migration of the diluent into the river.

Because diluent continued to surface on the beach, the RWQCB in 1993 ordered a site-wide investigation of petroleum-hydrocarbon contamination in the soil and ground water at the oil field. The CDFG investigation also led to the filing of criminal charges against Unocal and six of its employees. The defendants pleaded "no contest" to the criminal charges, were placed on three years probation, and fined \$1.3 million.

Since 1993, Unocal has conducted site assessment activities throughout the oil field under the direction of the RWQCB. To date, over 90 diluent plumes and 150 sumps (*i.e.*, areas of concentrated contaminated wastes consisting of drilling muds, heavy metals, and a variety of petroleum products) have been identified (Exhibits 2 and 3). Between 8.5 and 20 million gallons of petroleum hydrocarbons are present in the soil and groundwater. As discussed in more detail below, the RWQCB has issued a Cleanup or Abatement Order based on these site assessment activities.

The contamination consists of both "separate-phase" (*i.e.*, free product) and "dissolved phase" diluent. Since diluent is lighter than water and has a low solubility, most of the diluent spilled to the shallow dune aquifer remains as separate-phase and "floats" on top of the water. Separate-phase diluent is also present in the soil column above the groundwater. Some of the diluent dissolves into the groundwater and moves downstream with the groundwater flow, generally from east to west (*i.e.*, dissolved-phase). This has resulted in groundwater contamination beneath

much of the site with a flux toward the ocean and Santa Maria River. In several areas the contaminated groundwater is entering surface water bodies. Of the diluent contaminated areas, there are four very large plumes: the 5X beach area, the Diluent Tank area, the Compressor Plant area and Tank Battery 9 (Exhibit 2). The thickness of diluent floating on the water table ranges from a sheen on top of the water to thicknesses of almost 6 feet.

### *Issuance of Emergency Permits*

In the course of ongoing site characterization activities to determine the extent of the spill and development of a cleanup plan, as directed by the RWQCB, Unocal obtained the following emergency permits between 1994-1998:

#### *Emergency Permit E-94-12-G*

In August 1994, the Executive Director issued to Unocal emergency permit E-94-12 to excavate oil-contaminated sands in the 5X area and install a 965-foot long high-density polyethylene ("HDPE") wall on the beach to prevent further migration of diluent to the ocean (Exhibit 5).

Contaminated sand on the beach area was excavated to a depth of about 20 feet and removed from the beach to a treatment area. About 136,000 cubic yards of contaminated sand was treated using two thermal desorption units (located within the County's permit jurisdiction) to vaporize the diluent and incinerate the vapors. To remove the contaminated sand, Unocal constructed a large temporary sheetpile cofferdam on the beach. Unocal pumped extracted diluent to a temporary storage tank. About 250,000 gallons of diluent were removed from the excavation area. Thermally treated sand and stockpiled clean overburden (about 26,000 cubic yards) was used as backfill material on the beach.

This emergency work removed roughly one-third of the 5X plume. Concurrent with the beach excavation project, Unocal removed the bentonite wall and replaced it with a 965-foot long by 22-foot deep HDPE barrier wall to act as a barrier to prevent separate-phase diluent from migrating to the beach and ocean. Unocal installed extraction wells behind the HDPE wall to pump out diluent and contaminated groundwater accumulating behind the HDPE barrier. All temporary sheetpile was removed following HDPE wall installation.

#### *Emergency Permit E-95-18-G*

During the spring and summer of 1995, the Santa Maria River migrated northward up the beach and exposed a former sump associated with the abandoned Leroy 2 well located 800 feet south of the 5X HDPE wall (Exhibit 5). The sump released a sheen into the lagoon and river.

In November 1995, the California Department of Fish Game's Office of Spill Prevention and Response ("CDFG/OSPR") issued to Unocal a Cleanup or Abatement Order 95-111 to prevent the release of contaminants into surface waters. On November 30, 1995, the Commission's Executive Director issued emergency permit E-95-18-G to remove the sump. The sump footprint area was about 50 feet wide by 350 feet long and 2,840 cubic yards of contaminated material was removed. The river subsequently eroded this area where the sump was located.

#### ***Emergency Permit E-97-03-G***

When the Santa Maria River migrated northward in spring of 1995 it threatened to erode the sand supporting the HDPE wall in the 5X area. In three phases between March 1995 and February 1997, Unocal installed a total of 1,835 lineal feet of temporary sheetpile wall on the beach directly in front of the HDPE wall that was installed in the summer of 1994 under emergency permit E-94-12 (Exhibit 5). One of the purposes of the 5X sheetpile protective wall is to prevent scouring and undercutting of the existing HDPE wall due to the northern migration of the Santa Maria River. The sheetpile wall and the HDPE wall remain in place to prevent a marine release of diluent from the remaining two-thirds of the 5X plume until the 5X plume is fully excavated.

Sheetpile installation involved excavating about 1500 cubic yards of vegetated overburden and 12,320 cubic yards of clean unvegetated overburden, transporting the sheetpile from staging areas with a forklift and driving the piles with a crane-mounted electric or hydraulic pile hammer. The individual piles were driven to a depth of approximately -29 feet mean sea level ("msl"). The top elevation of the sheet pile is +15 feet msl. The site was backfilled and re-contoured with the stockpiled sand to its pre-construction grade. In 1997, movement of the river along the sheetpile wall caused deep scour along the southwest corner. To create a unified structural element in the existing sheetpile wall, Unocal welded steel H-beam walers to the face of the pile on both sides of the southwest corner.

Unocal proposes to remove the sheetpile protection wall when hydrocarbon-affected soils behind (*i.e.*, eastward) the HDPE wall are removed. The 5X sheetpile protection wall will be in place for a total of about five years, until March 2001.

#### ***Emergency Permit E-98-09-G***

During the 1998 winter storm season, the Santa Maria River rapidly eroded the northern bank of the river near its outlet to the Pacific Ocean, threatening to expose four areas that contained hydrocarbon-affected material. In March 1998, the Commission's Executive Director issued to Unocal emergency permit E-98-03-G (which was modified in May 1998 and superseded by E-98-09-G) to remove the contaminated material before the river reached the area.

In February 1998, Unocal commenced to (a) excavate the Leroy 3 sump, the 2X sump and the Leroy 2 access road sump (a total of 7,490 cubic yards of sump material) located at the southwest corner of the oil field; (b) excavate 26,400 cubic yards of petroleum hydrocarbon-affected soil from an area known as the A2A South plume; and (c) place 121 geobags along the upper edge of the river bank next to the southwest corner of the "A" road.

### ***Cleanup or Abatement Order 98-38***

After years of Unocal investigating the site to determine the composition and areal extent of contamination throughout the oil field, and the development of a cleanup plan (and subsequent preparation of an environmental impact report ("EIR")), the RWQCB in April 1998 issued Cleanup or Abatement Order ("CAO") 98-38 (as amended November 1998) requiring Unocal to abandon and remediate the oil field using various technologies (Exhibit 6).

The RWQCB decided to take a phased approach to site cleanup, proceeding first with cleanup of the 17 most critical plumes (those known to be introducing petroleum hydrocarbons into surface waters) while continuing with investigations into the total extent of site contamination. This phase of the cleanup project is referred to as "Phase 1" and is scheduled to take five years to complete. Phase 1 includes remediation of the large 5X plume located within the Commission's permit jurisdiction.

In the future, the RWQCB may issue additional Cleanup or Abatement Orders for remediation of the remaining 73 plumes and remaining sumps.

### ***San Luis Obispo County's Action on Phase 1 Remediation and Abandonment Project***

On September 22, 1998, the San Luis County Board of Supervisors approved coastal development permit/development plan D890558D for Phase 1 of the Guadalupe oil field remediation and abandonment project. The County's coastal permitting jurisdiction covers 14½ of the 17 Phase 1 plumes.

### ***Appeal by Commissioners Wan and Areias***

On October 19, 1998, Coastal Commissioners Wan and Areias filed an appeal (A3-98-91) of the County's decision. The appellants contended that the development as described in coastal development permit/development plan D890558D did not conform to the County's certified LCP policies concerning public access, recreation and habitat preservation for the following reasons:

- LCP Policy section 23.04.420 establishes criteria for the requirement of public access that the appellants believe were not met by the conditions of the County permit. Specifically, Conditions 171 and 172 required Unocal to extend existing offers to dedicate ("OTDs") of

lateral public access and conservation easements originally required in a 1980 Coastal Commission permit (CDP 409-24) "to at least 25 years after the issuance of a closure letter for the site by the RWQCB." It has been 19 years since the OTDs were originally required and, because of ongoing site contamination, the OTDs have not been accepted by a public agency or private non-profit. To be fully consistent with the public access components of the certified LCP and the Coastal Act, the appellants stated that Unocal must include an indemnification provision within the OTDs so that they can be expeditiously accepted.

- The County's conditions for habitat protection and restoration were in many cases vague, inconsistent and lack performance standards to ensure that environmentally sensitive habitats are protected and restored as required by LCP policies 23.07.160 and 23.07.170.

At the November 1998 Commission meeting, staff recommended that the coastal permit approved by the County raised Coastal Act and LCP concerns regarding its conformity with public access, recreation and habitat preservation policies. Commission staff therefore recommended that the appeal raised a "substantial issue." However, Commission staff qualified its recommendation with the view that the issues raised by the appeal could be resolved if the County revised its conditions of approval to address fully the LCP and Coastal Act issues that were of concern.

Commission staff proposed to work with the County and Unocal in developing draft changes to the County's conditions for consideration by the Commission at a future hearing. If changes were agreed upon, the County would consider the revised conditions and adopt a revised permit. If the Commission was confident that all Coastal Act and LCP deficiencies were addressed, then the appeal could be withdrawn and the County's revised permit would be in effect.

The Commission agreed to allow staff to work with the County in developing revised conditions of approval and continued the Substantial Issue appeal hearing until December 1998.

At the December 8, 1998, Commission hearing, the Commission reviewed (a) revised conditions of approval to be added to the County's coastal permit to address the LCP and Coastal Act issues raised in the appeal, and (b) a draft Indemnification Agreement to be executed by Unocal for the OTDs. The County staff proposed taking these changes to the County Board of Supervisors for adoption at its December 10, 1998 hearing. The Commission agreed to this approach and passed a resolution opening and continuing the Substantial Issue appeal hearing. The Commission also concurred in the withdrawal of the appeal by Commissioners Wan and Areias if the County Board of Supervisors adopted the suggested revised conditions of approval.

On December 10, 1998, the County Board of Supervisors adopted the proposed revised set of conditions of approval and approved a revised permit (Exhibit 8).

On January 13, 1999, Commissioners Wan and Areias withdrew their October 19, 1998 appeal of the County's September 22, 1998 action.

***Discovery of PCBs Slows Implementation of Cleanup Project***

RWQCB CAO 98-38 required Unocal to test diluent-contaminated soil at the oil field for non-diluent compounds (*i.e.*, Title 22 metals, polycyclic aromatic hydrocarbons, volatile organic compounds, and semi-volatile organic compounds).

In December 1998, Unocal submitted a report to the RWQCB that showed the presence of detectable levels of polychlorinated biphenyls ("PCBs") in diluent samples taken from several plume sites, including 5X. PCBs were also discovered in samples taken from the Diluent Tank area, Tank Battery 9, Tank Battery 8 and the Compressor Plant site. PCBs have not been identified outside of diluent-affected areas nor have they been detected in groundwater or in pond sediments.

After receipt of the initial results from the testing for non-diluent compounds, the USFWS and CDFG/OSPR were concerned that the Aroclor method used by Unocal for detecting PCBs was not sufficiently sensitive. Unocal agreed to retest all PCB-containing sites using congener and homologue analyses, and incorporate that information in a site-wide ecological risk assessment.

Given the urgency of addressing remediation of those plume sites closest to the ocean and the Santa Maria River, Unocal proceeded first with site-specific testing and ecological risk assessments for the 5X beach and A2A North sites. (Re-testing of the rest of the PCB-containing sites, and the accompanying site-wide risk assessment, are expected by mid-2000).

Congener and homologue PCB analyses of the additional soil samples taken from 5X and A2A supported the earlier (Aroclor) test results, indicating relatively low levels of non-diluent compounds, including PCBs, at these sites. These additional results, as well as results from several earlier studies on PCB risks to ecological receptors, were entered into an ecological risk assessment.

The ecological risk assessment for 5X and A2A North sites concluded that given the relatively low levels of PCBs and other non-diluent compounds, the remedial actions will not cause substantial incremental ecological risk to marine, aquatic or terrestrial plants or wildlife. (See Exhibit 9 for Executive Summary of 5X Beach and A2A North ecological risk assessment.) The RWQCB, CDFG/OSPR, the National Oceanic and Atmospheric Administration ("NOAA"), and the California Office of Environmental Health and Hazard Assessment (which served as a consultant to the RWQCB) reviewed the ecological risk assessment for the 5X and A2A North sites and concurred with its conclusions. Accordingly, the agencies directed Unocal to proceed with its plans to excavate the 5X and A2A North plumes, as originally required by CAO 98-38.

## CDP Application E-99-009 Consistency with Coastal Act Policies

The purpose of the proposed remediation and cleanup project is to remove large quantities of petroleum hydrocarbons and other sump materials from the soil and groundwater of the Guadalupe oil field site, thereby eliminating future discharges of contaminated material to surface, ground and marine waters.

Although the intent of the proposed project is clearly consistent with the marine resource (Sections 30230 and 30231), environmentally sensitive habitat (Section 30240(a)), oil spill (Section 30232) and the public access and recreation policies (Sections 30210, 30211 and 30221) of the Coastal Act, executing the cleanup and abandonment project (*i.e.*, excavating large areas of environmentally sensitive habitat areas ("ESHA") that include some wetlands) will result in significant short-term, and perhaps long-term, unmitigable adverse impacts to ESHA and marine resources.

Table 1 summarizes project-related significant issues, potential impacts to coastal resources, and conditions<sup>1</sup> and mitigation measures Unocal will implement to avoid or reduce those impacts. Nevertheless, not all significant impacts can be avoided or mitigated.

Specifically, the project is inconsistent with the following Coastal Act policies:

- Section 30240(a) due to the significant unavoidable impacts to ESHAs and the sensitive plant and animal species they support;
- Section 30232 due to the inability to provide effective containment and cleanup equipment for accidental oil spills; and
- Section 30253(2) since the 5X sheetpile wall is contributing significantly to erosion of the beach.

However, Coastal Act § 30007.5 states in part:

*The Legislature further finds and recognizes that conflicts may occur between one and more policies of the division. The Legislature further declares that in carrying out the provisions of this division such conflicts be resolved in a manner which on balance is the most protective of significant coastal resources. In this context, the Legislature declares that broader policies which, for example, serve to concentrate development in close proximity to urban and employment centers may be more protective, overall, than specific wildlife habitat and other similar resource policies.*

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<sup>1</sup> The recommended conditions of approval of this permit are based on the conditions that the Commission accepted during the appeal proceedings of the County's permit.

The Commission staff recommends that after applying the standard of Coastal Act § 30007.5, on balance, it is most protective of significant coastal resources to approve the project for the following reasons:

- The cleanup and abandonment project will cause significant, adverse, and perhaps unmitigable, impacts to marine resources and environmentally sensitive habitat areas (“ESHA”) and the sensitive species they support. The project is thus inconsistent with Coastal Act §§ 30230, 30231 and 30240(a) which require that marine resources, ESHA, and species of special biological concern be maintained and protected.

However, if the hydrocarbon contamination is left in place, future discharges of the contaminated soil and groundwater into surface waters and ESHAs could cause greater damage to marine resources, ESHAs and the sensitive species they support which is in clear conflict with Coastal Act §§ 30230, 30231 and 30240(a) standards that require healthy populations of marine resources, ESHAs and species of special biological significance to be maintained and protected. Therefore, eliminating the potential for the spillage of hydrocarbons by removing the contamination, as required by Coastal Act § 30232, will be more protective of coastal resources than leaving such contamination in place.

- In the event of a release of hydrocarbons into surface waters, there is currently no “effective” oil spill containment and cleanup equipment available to keep oil off the shoreline. The project is thus inconsistent with the second test of Coastal Act § 30232 which requires that an applicant provide effective cleanup equipment for accidental spills that do occur.

However, leaving the contamination in place will increase the likelihood of a large release of hydrocarbons into surface waters and ESHA, including wetlands, especially since much of the contamination underlies the active beach area, the historical channel of the Santa Maria River, or is in or adjacent to wetland areas and is susceptible to erosion. Therefore, eliminating the potential for the spillage of hydrocarbons by removing the contamination, as required by the first test of Coastal Act § 30232, will be more protective of coastal resources than leaving such contamination in place.

- The Commission is not required pursuant to Coastal Act § 30235 to approve the installation on the beach of a sheetpile protection wall (approved under emergency permit E-97-03-G)) to prevent the release of diluent from the 5X plume because the 5X sheetpile wall does not serve coastal-dependent uses or protect existing structures or public beaches from erosion. The 5X sheetpile wall is also causing significant erosion to Guadalupe Beach and, therefore, is inconsistent with Coastal Act § 30253(a) which requires that new development neither create nor contribute significantly to erosion.

However, requiring removal of the 5X sheetpile wall now, before complete removal of the large 5X plume, will increase the likelihood of a large release of hydrocarbons into the ocean and Santa Maria River, which conflicts with the marine resource (Sections 30230 and 30231), ESHA (Section 30240(a)) oil spill (Section 30232), and public access and recreation policies (Sections 30210, 30211 and 30221) of the Coastal Act.

### **Staff Recommendation**

For these reasons, the Commission staff recommends that pursuant to Coastal Act § 30007.5, on balance, it is more protective of coastal resources to resolve these conflicts by approving the proposed cleanup and abandonment project.

The Commission staff thus recommends that the Commission **approve** the proposed project, as strictly conditioned.

**Table 1. Major Issue Summary: Potential Impacts, Proposed Conditions and Other Mitigation Measures**

Significant Issue Area	Special Conditions and other Mitigation Measures
<p><b>ESHA/Marine Resources</b></p>	<p><b>Issue:</b> The Beach Projects will significantly disturb Environmentally Sensitive Habitat Areas (“ESHA”) used by sensitive plant and animal species.</p> <p><b>Mitigation Measures:</b></p> <ul style="list-style-type: none"> <li>• <b>Special Condition 9</b> requires that prior to ground disturbance at each site, Unocal shall submit a site-specific Habitat Restoration, Revegetation and Monitoring Plan for Executive Director approval that includes biological surveys, disturbance limits, construction monitoring, dune stabilization measures, revegetation and wildlife introduction goals, and performance monitoring.</li> <li>• <b>Special Condition 19</b> requires Unocal to make every reasonable effort to avoid impacts to wetlands. Wherever ground-disturbing activities will occur, a preliminary wetland assessment by a qualified wetland delineator will be conducted in cooperation with the independent Onsite Environmental Coordinator (“OEC”). Unocal shall not commence activity at any wetland area until receiving written sign-off from the Executive Director.</li> <li>• <b>Special Condition 10</b> requires Unocal to limit disturbance time, mark sensitive species, develop an exclusion plan, and maintain a database of sensitive species and access restrictions.</li> <li>• <b>Special Condition 11</b> requires Unocal, in part, to develop sensitive plant salvage and propagation programs and sensitive wildlife capture and relocation programs.</li> <li>• <b>Special Condition 20</b> requires that if any project activities could result in unavoidable impacts to wetlands, Unocal shall prepare a Wetland Restoration and Mitigation Plan in the form of an amendment to this permit. The Plan shall include the ratio of created or restored wetlands to impacted wetlands, provide a range of microhabitats for sensitive plant species and provide a diluent-exposure monitoring plan.</li> <li>• <b>Special Condition 43</b> requires Unocal to re-offer to dedicate (“OTD”) a shoreline habitat protection easement originally required in a 1980 coastal permit. Unocal must also execute an Indemnity Agreement to any entity approved by the Executive Director to accept the existing or new, replacement OTD. The Indemnity Agreement is to indemnify any party accepting the OTD from any liability arising out of past, present and future activities at the Guadalupe oil field.</li> </ul> <p><b>Issue:</b> The Beach Projects will significantly disturb federally and state-listed species, including western snowy plover, California least tern and California red-legged frogs.</p> <p><b>Mitigation Measures:</b></p> <ul style="list-style-type: none"> <li>• <b>Special Condition 12</b> requires Unocal to schedule beach and foredune activities to avoid western snowy plover and California least tern habitat during their breeding seasons.</li> <li>• <b>Special Condition 13</b> requires that a qualified biologist with western snowy plover and California least tern experience monitor all remediation activities.</li> <li>• <b>Special Condition 14</b> requires that a qualified biologist monitor breeding and fledgling success of western snowy plover and California least tern populations during and after project activities.</li> </ul>

Significant Issue Area	Special Conditions and other Mitigation Measures
	<ul style="list-style-type: none"> <li>• <b>Special Condition 15</b> requires that at sites where California red-legged frog (“CRLF”) habitat is present, Unocal implement pre-project and nighttime surveys. No project activities shall occur within 200 feet of suitable habitat, and CRLF captures and relocations will be by a monitor approved by USFWS.</li> <li>• <b>Special Condition 21</b> requires Unocal to limit the use of the “loop” road to minimize potential take of California red-legged frogs.</li> </ul>
<p><b>Water Quality</b></p>	<p><b>Issue:</b> The Beach Projects could increase turbidity, or release sediment, suspended material, or settleable material into surface waters.</p> <p><b>Mitigation Measures:</b></p> <ul style="list-style-type: none"> <li>• <b>Special Condition 8</b> requires Unocal to develop soil stabilization and erosion control procedures for each excavation.</li> <li>• <b>Special Condition 24</b> requires Unocal to obtain an NPDES Construction Storm Water Activity Permit from the RWQCB that specifies best management practices (“BMPs”) to reduce erosion.</li> <li>• <b>Special Condition 25</b> requires Unocal to monitor weekly surface water bodies for increased turbidity.</li> <li>• <b>Special Condition 26</b> requires that equipment and materials be stored inside bermed areas.</li> <li>• <b>Issue:</b> Failure of a sheetpile containment wall could release contaminated material into surface waters.</li> </ul> <p><b>Mitigation Measures:</b></p> <ul style="list-style-type: none"> <li>• <b>Special Condition 33 and 34</b> require Unocal to design the sheetpile walls to withstand appropriate local storm conditions.</li> </ul>
<p><b>Oil Spill Prevention and Response</b></p>	<p><b>Issue:</b> The Beach Projects could cause a release of hydrocarbons into surface waters due to (a) failure of a sheetpile wall or a result of erosion due to migration of the Santa Maria River; (b) recovery and transport of diluent taken from excavation pits; (c) fueling activities; and (d) pipeline removal.</p> <p><b>Mitigation Measures:</b></p> <ul style="list-style-type: none"> <li>• <b>Special Condition 27</b> requires Unocal in part to submit a revised oil spill contingency plan that includes wildlife exclusion measures and wildlife response measures.</li> <li>• <b>Special Condition 28</b> requires Unocal, during the 5X excavation, to collect weekly samples of ocean water, interstitial water, and sediments at the point of ground water discharge at low tide on the sandy beach and analyze them for elevated hydrocarbons per the direction of CDFG/OSPR. If excavation activities are causing, or have a high likelihood to cause, marine discharges, all activities are to cease until Unocal and affected agencies identify how cleanup activities can proceed without additional discharges.</li> <li>• Unocal will maintain on-site spill containment and response equipment during all remediation and abandonment activities.</li> <li>• Unocal is a member of the Clean Seas oil spill cooperative.</li> </ul>

Significant Issue Area	Special Conditions and other Mitigation Measures
<p><b>Shoreline Processes</b></p>	<p><b>Issue:</b> The 5X sheetpile wall is causing erosion of the beach.</p> <p><b>Mitigation Measures:</b></p> <ul style="list-style-type: none"> <li>• <b>Special Conditions 30</b> requires Unocal to visually monitor the wall daily and conduct quarterly elevation surveys of the wall, sand spit and riverbank.</li> <li>• <b>Special Condition 31</b> requires Unocal between September 30 and March 1 of each year to ensure that the wall is covered with sand, except in those locations where the Santa Maria River is immediately adjacent to the wall.</li> <li>• <b>Special Condition 41</b> requires Unocal to remove the 5X sheetpile wall at the earliest opportunity following the 5X excavation.</li> </ul> <p><b>Issue:</b> Excavation activities may modify erosion and sedimentation patterns.</p> <p><b>Mitigation Measures:</b></p> <ul style="list-style-type: none"> <li>• <b>Special Condition 8</b> requires Unocal to develop soil stabilization and erosion control procedures for each excavation.</li> <li>• <b>Special Condition 24</b> requires Unocal to obtain an NPDES Construction Storm Water Activity Permit from the RWQCB that specifies best management practices (“BMPs”) to reduce erosion.</li> <li>• <b>Special Condition 37</b> requires Unocal to submit a sediment grain size analysis of removed and replacement material. No filling of an excavated area is to occur until the grain-size compatibility between removed and replacement sediment is approved by the Executive Director.</li> <li>• <b>Special Conditions 36 and 37</b> require Unocal to compact and re-grade the excavated areas to approximate their pre-construction topographic contours and then add vegetated stockpiled soil.</li> <li>• <b>Special Condition 9</b> requires Unocal to revegetate and restore each disturbed area.</li> </ul> <p><b>Issue:</b> A seismically generated tsunami could inundate open excavations, overtop containment walls, and submerge equipment within excavations.</p> <p><b>Mitigation Measures:</b></p> <ul style="list-style-type: none"> <li>• <b>Special Condition 35</b> in part requires Unocal in the event of a tsunami warning to move all personnel and equipment from the beach and to a safe elevation based on the warning.</li> </ul>
<p><b>Access and Recreation</b></p>	<p><b>Issue:</b> The Beach Projects have and will reduce the quality of the recreational experience along the shoreline.</p> <p><b>Mitigation Measures:</b></p> <ul style="list-style-type: none"> <li>• <b>Special Condition 39</b> requires Unocal to provide fencing and other markings to warn the public of project hazards. Unocal will station a worker near points of public access to keep the public at a safe distance but still allow the public to traverse the beach.</li> <li>• <b>Special Condition 40</b> requires Unocal, at least one week before starting project activities, to provide notice to beach users of project activities. Signs in English and Spanish are to be posted at Rancho Guadalupe County Park and Oso Flaco Lake parking lots. The signs shall indicate that the beach will remain open during project activities.</li> </ul>

Significant Issue Area	Special Conditions and other Mitigation Measures
	<ul style="list-style-type: none"> <li>• <b>Special Conditions 43 and 44</b> require Unocal to re-offer to dedicate (“OTDs”) shoreline easements providing for limited public access and habitat protection/open space originally required in a 1980 coastal permit. Unocal must also execute an Indemnity Agreement to any entity approved by the Executive Director to accept the existing or new, replacement OTDs. The Indemnity Agreement is to indemnify any party accepting the OTDs from any liability arising out of past, present and future activities at the Guadalupe oil field.</li> <li>• Unocal has provided approximately \$1,069,000 to fund public access improvements and community outreach and education programs at Rancho Guadalupe County Park and the Nature Conservancy’s Dune Center.</li> <li>• San Luis Obispo County, as part of its coastal permit, has required Unocal, if it succeeds in purchasing the oil field, to irrevocably offer to dedicate to a public agency or private non-profit association a <u>site-wide</u> open space, habitat protection, and managed public access easement. If Unocal does not succeed in acquiring the site, the County allows for other options including Unocal acquiring, or causing the acquisition of, a protective easement over a combination of foredune, backdune, and/or wetland habitats in the Guadalupe-Nipomo Dunes Complex that are the functional biological equivalent of the oil field in its natural state.</li> </ul>
<p><b>Visual</b></p>	<p><b><u>Issue:</u></b> The Beach Projects have caused, and will cause, adverse visual impacts to beach users.</p> <p><b><u>Mitigation Measures:</u></b></p> <ul style="list-style-type: none"> <li>• <b>Special Condition 38</b> requires Unocal to schedule excavations located within the viewshed of Rancho Guadalupe County Park during winter, if feasible.</li> <li>• <b>Special Condition 41</b> requires Unocal to remove the 5X sheetpile wall following excavation of the 5X plume.</li> <li>• <b>Special Condition 42</b> requires Unocal to removal all geobags at the earliest opportunity following plume and sump excavations.</li> </ul>

## 1.0 STAFF RECOMMENDATION

### Approval with Conditions

The staff recommends conditional approval of Coastal Development Permit Application No.-E-99-009.

#### Motion:

I move that the Commission approve Coastal Development Permit Application No. E-99-009, subject to the conditions specified below.

The staff recommends a YES vote. To pass the motion, an affirmative vote of a majority of the Commissioners present is required. Approval of the motion will result in adoption of the following resolution and findings:

#### Resolution:

The Coastal Commission hereby **grants** permit E-99-009, subject to the conditions below, for the proposed development on the grounds that (1) as conditioned, the development will be in conformity with the provisions of Chapter 3 of the California Coastal Act of 1976 and (2) there are no feasible alternatives or feasible mitigation measures available, other than those specified in this permit, which would substantially lessen any significant adverse impact which the activity may have on the environment.

2.0 STANDARD CONDITIONS                      See Appendix A.

## 3.0 SPECIAL CONDITIONS

This permit is granted subject to the following special conditions:

### General Conditions

1. **Scope of Project Approval.** This permit authorizes those project activities and locations specifically described in Unocal's August 25, 1999 and September 10, 1999 coastal development permit application materials, as amended by Unocal's October 13, 1999 letter and supporting documents (including a revised project description dated October 8, 1999), except as otherwise modified by the conditions of this permit. Any modifications of or additions to the project, as described in the referenced documentation, including future removal of the "A" road, shall require an amendment to this permit.
2. **Condition Compliance.** Authority to conduct development activities under this permit is contingent upon full and continuing compliance with every condition of this permit. Failure

to comply fully with the requirements of any condition of this permit shall constitute grounds for a cease and desist order issued by either the Executive Director of the Coastal Commission (hereinafter "Executive Director") or the Coastal Commission (Coastal Act §§ 30809 and 30810).

3. **Funding Condition Compliance.** Unocal shall fund all necessary costs for condition compliance and the enforcement of this permit by the Coastal Commission. These costs will include staff salaries, equipment, travel, and associated operating costs incurred by the Coastal Commission to monitor compliance with and enforce the conditions of this permit. The Executive Director will determine the form and manner of payment by Unocal, consistent with the requirements of state law and which will ensure efficiency and reasonable costs to Unocal. The Executive Director will prepare a budget and work program specifying all needed funding. If Unocal and the Executive Director cannot agree on the budget or work program, the disagreement will be submitted to the Coastal Commission for resolution.
4. **Independent Monitor.** Prior to issuance of this permit, Unocal shall fund the hiring of an independent project monitor(s) to be selected by the Executive Director, County Department of Planning and Building, and the Central Coast Regional Water Quality Control Board ("RWQCB") after consultation with Unocal and other permitting agencies. The monitor(s) shall be under contract with the County, to act as project monitor(s) and condition compliance inspector(s) for the County of San Luis Obispo, the RWQCB, the Coastal Commission and other permitting agencies. The monitor(s) shall prepare a specific mitigation tracking monitoring plan and submit it to the Executive Director, the County Department of Planning and Building, the RWQCB, and other permitting agencies for review and approval.
5. **Indemnification.** In addition to any immunities provided for by law, in exercising this permit, Unocal agrees to hold harmless and indemnify the Coastal Commission, its officers, employees, agents, successors and assigns from any claims, demands, costs, expenses and liabilities for any damage to public or private properties or personal injury that may result directly or indirectly from the project.
6. **Liability for Costs and Attorney Fees.** Unocal shall reimburse the Coastal Commission in full for all costs and attorneys fees — including (1) those charged by the Office of the Attorney General, and (2) any court costs and attorneys fees that the Coastal Commission may be required by a court to pay — that the Coastal Commission incurs in connection with the defense of any action brought against the Coastal Commission, its officers, employees, agents, successors and assigns challenging the approval or issuance of this permit, the interpretation and/or enforcement of permit conditions, or any other matter related to this permit.
7. **Waiver.** In accepting this permit, Unocal agrees to waive any and all rights to challenge this permit under any legal theory.

## Mitigation Measures

8. **Soil Stabilization and Erosion Control Procedures.** Prior to ground disturbance at each project site, Unocal shall submit to the Executive Director for review and approval Unocal's proposed procedures for soil stabilization and erosion control. The procedures shall be compatible with the Habitat Restoration, Revegetation, and Monitoring Plan objectives required by Special Condition 9. Any soil stabilizers identified for erosion control shall be compatible with native plant recruitment and establishment. Erosion control procedures shall include temporary soil stabilization methods to prevent the loss or movement of soil from clean or contaminated soil stockpiles. Unocal shall not commence any ground-disturbing activity at any site until receiving written sign-off on said procedures for that site from the Executive Director.
  
9. **Habitat Restoration, Revegetation and Monitoring Plan.** Prior to ground disturbance at each project site, Unocal shall submit and have approved by the Executive Director a site-specific **Habitat Restoration, Revegetation, and Monitoring Plan**. Unocal shall not commence any ground-disturbing activity at any site until receiving written sign-off on said plan for that site from the Executive Director. Each site-specific plan shall include, but not necessarily be limited to, the following elements:
  - a. Prior to any site characterization, remediation, abandonment, infrastructure installation, or infrastructure removal activities, Unocal shall complete a pre-disturbance biological survey. The survey shall identify all species occupying or using the site, estimate the abundance (density or percentage ground cover), size or age structure, and condition of resident species, and the intensity of use (*e.g.*, time spent foraging or loafing) of non-resident species. Wildlife surveys must be conducted within 24 months of the disturbance and must include the seasons during which disturbances will occur. Vegetative surveys must be conducted within 6 months of the disturbance. Surveys of sensitive species must be conducted within 90 days of the disturbance. Sensitive species are defined as: (a) species which are listed by state or federal agencies as threatened or endangered or which are designated as candidates for such listing; (b) California species of special concern; (c) fully protected or "special animal" species in California; (d) plants considered rare, endangered, or of limited distribution by the California Native Plant Society; and (e) other species which were not recorded on the oil field prior to January 1, 1999 and for which there is substantial scientific evidence of rarity or endangerment. Individuals and colonies shall be mapped and clearly marked, their condition shall be determined and numbers of individuals or percentage of ground coverage or other appropriate measure of abundance shall be determined and recorded. Ground level photographs shall be taken within 30 days of the disturbance and a high resolution, vertical ortho rectified aerial photograph at a scale of 1:6000 or less will be taken within 3 months before the disturbance.
  
  - b. Where delineated wetlands are present, prior to any project activities, the local hydrology and the soil profile to the depth of the expected excavation will be analyzed and described by appropriate specialists approved by the Executive Director in

consultation with the County Department of Planning and Building. The parameters to be assessed shall include depth, composition, and texture of wetland soils, and a description of any relatively impervious confining layers. Representative soil borings will be preserved and retained by Unocal until habitat restoration and revegetation has been successfully completed, unless otherwise approved by the Executive Director. The purpose of this condition is to provide the information necessary for physical restoration appropriate to the re-creation of self-sustaining wetland habitat similar to that which existed prior to excavation.

- c. A map shall be prepared with a polygon representing the geographic limits of disturbance and the geographic boundary of restoration and revegetation activities. The disturbance boundary will be physically delineated in the field. The boundary of restoration activities may be larger.
- d. Prior remediation, abandonment, infrastructure removal activities and other known disturbances (including grazing) shall be summarized.
- e. Each site-specific plan shall incorporate construction monitoring measures that include, but are not necessarily be limited to, the following elements:
  - i. Pre-construction topographic survey information.
  - ii. Specifications for soil compaction, for grading and contouring, for quantity and physical/chemical characteristics of replacement soils and fill, for top soil maintenance or replacement, for erosion control procedures, and other development activities. Upon completion of an excavation, temporary sheetpile shall be removed and ground surface shall be restored to approximate its pre-construction topographic profile. The area surveyed must include the entire limits of work including access corridors, staging areas, overburden storage areas and topsoil storage areas.
  - iii. Protocols to determine quantitatively, following physical restoration and grading, whether the physical habitat has been built-to-plan. The post-construction monitoring report must be approved by the Executive Director prior to revegetation efforts within the area physically restored. This does not preclude early restoration and revegetation activities in portions of the site not subject to construction activities.
- f. Each site-specific plan shall incorporate dune stabilization measures which must include, but not necessarily be limited to: (a) monthly monitoring for erosion during the annual rainy season (including the period November through March), until biological performance criteria have been met; (b) remedial measures in the event of erosion; and (c) ongoing dune stabilization measures which may include appropriate physical measures (*e.g.*, installation of jute netting) and revegetation activities.

- g. Each site-specific plan shall include a description of the habitat and revegetation goals in terms of abundance (*e.g.*, density or ground cover), height or other growth characteristics, recruitment and survival, and general dispersion of particular plant species and the population characteristics (*e.g.*, density, age or size structure) and habitat use by wildlife species. The Plan will include technical details of collecting seeds and other propagules, propagation, planting, routine monitoring and maintenance (including irrigation), wildlife introductions, and a time schedule. Specific facilities and staff will be identified.
- h. Each site-specific plan shall include specific erosion control and ecological performance criteria which relate logically to the local restoration and revegetation goals. Where there is sufficient information to provide a strong scientific rationale, the performance criteria shall be absolute (*e.g.*, a specified percentage ground cover or a specified average height within a specified time for a species). Where absolute performance criteria cannot reasonably be formulated, clear relative performance criteria will be specified. Relative criteria are those that require a comparison of the restoration site with reference sites. Reference sites may be located on the oil field property or in other areas of the Guadalupe–Nipomo Dunes complex. In the case of relative performance criteria, the rationale for the selection of reference sites, the comparison procedure, and the basis for judging differences to be significant will be specified. If the comparison requires a statistical test, the test will be described, including the desired magnitude of difference to be detected, the desired statistical power of the test, and the alpha level at which the test will be conducted. The design of the sampling program shall relate logically to the performance criteria and chosen methods of comparison. The sampling program shall be described in sufficient detail to enable an independent scientist to duplicate it. Frequency of monitoring and sampling shall be specified for each parameter to be monitored. Sample sizes shall be specified and their rationale explained. Using the desired statistical power and an estimate of the appropriate sampling variability, the necessary sample size will be estimated for various alpha levels, including 0.05 and 0.10.
- i. Unocal shall fund an independent biological performance monitor to be selected by the Executive Director in consultation with the County Department of Planning and Building, after consultation with Unocal and other agencies, to conduct performance monitoring. The performance monitors will coordinate their activities with Unocal's Management and Coordination Team and with the revegetation contractors. The performance monitors and revegetation contractors are encouraged to cooperate in field sampling, but the performance monitors shall direct the performance monitoring activities. Performance monitoring shall commence one year following the completion of habitat restoration and revegetation and continue until performance standards have been met for two consecutive years after the end of maintenance or bioremediation activities (*e.g.*, watering, replanting etc.) or for 10 years, whichever is shorter. If performance standards are not met in ten years, or if prior to that time Unocal concludes that restoration and revegetation will not meet performance standards, within

180 days Unocal shall apply to the Coastal Commission for an amendment to this coastal development permit which will include alternative mitigation.

10. **Avoidance/Minimization Measures.** Unocal shall take all feasible steps to avoid or minimize environmental impacts including, but not necessarily limited to, the following actions:
- a. The duration of time each site is disturbed and the total area of disturbance shall be minimized to the extent feasible.
  - b. Unocal shall maintain a current database of state or federally listed rare, threatened or endangered species and other sensitive species present in the oil field and seasonal or year round access restrictions or closures required for sensitive species protection. Unocal shall keep closure information posted in the field office and contractor trailers and notify all personnel of closed areas and penalties that Unocal will exact from its contractors and employees for non-compliance.
  - c. In cooperation with the independent Onsite Environmental Coordinator in the field, Unocal shall clearly mark any potentially impacted locations of sensitive species in the oil field to exclude vehicles or pedestrians (*e.g.*, with traffic cones, t-bar and caution/DO NOT ENTER tape, t-bar and orange construction fence).
  - d. Unocal shall confine all off-road vehicular use to designated construction areas and access corridors. These shall be surveyed by qualified biologists in cooperation with the independent Onsite Environmental Coordinator and routed to avoid impacts to sensitive plant and wildlife species and minimize impacts on native vegetation and soils. The corridors shall be clearly designated in the field using durable and conspicuous markers that can be removed before they degrade or that will degrade completely into environmentally harmless materials. Locations shall also be marked on maps. All personnel operating vehicles capable of off-pavement travel shall be informed of the restrictions on off-pavement travel and made responsible for adhering to them. Unocal and its contractors shall not commence any off-road vehicular travel at any project site until receiving written sign-off on said designations for that site from the Executive Director.
  - e. Unocal shall minimize ATV use and confine it to designated corridors with restrictions on top speed and noise generation. Access to monitoring wells shall be by the route employed to install them unless an ecologically preferable route is identified and approved by the independent Onsite Environmental Coordinator. Access routes to sites not accessible by designated corridors shall first be surveyed by a qualified biologist in cooperation with the independent Onsite Environmental Coordinator. An up-to-date sign-in log shall be maintained by Unocal and its contractors of all ATV use (including names of operators and passengers, routes traveled, dates and times in and out, and purpose). Access corridors shall be periodically surveyed, at a frequency determined by

Unocal and the independent Onsite Environmental Coordinator in consultation with the appropriate resource agencies, by a qualified biologist in cooperation with the independent Onsite Environmental Coordinator to monitor access corridor condition, including exotic species establishment, and presence of sensitive species (*e.g.*, new establishment of beach spectacle pod). Eradication efforts shall be implemented if the corridor is facilitating spread of invasive exotic species into areas where they are not already well-established.

- f. Prior to ground disturbance at each excavation site, an exclusion plan shall be prepared by Unocal in cooperation with the independent Onsite Environmental Coordinator and approved by the Executive Director. The plan shall identify and map all exclusion zones that shall not be disturbed or disrupted by any element of the proposed projects. Exclusion zones shall include sensitive habitats such as wetlands, riparian vegetation, important terrestrial habitat and other biological resources. Unocal shall not commence any ground-disturbing activity at any site until receiving written sign-off on said plan for that site from the Executive Director.
- g. Unocal shall restrict construction activities and equipment to existing roads, pads or otherwise disturbed areas as much as possible.
- h. Where access to sites or pipeline abandonment must be through native habitats, a qualified biologist in cooperation with the independent Onsite Environmental Coordinator shall determine the most suitable and least environmentally damaging access route to the site. This access route shall be clearly marked and will be considered part of the construction zone. Unocal shall not enter any native habitats until receiving written sign-off on said access route for that habitat from the Executive Director.
- i. Limits of the construction zone shall be clearly marked and delineated by Unocal in the field and approved by the independent Onsite Environmental Coordinator prior to issuance of grading permit for each excavation project. No unauthorized personnel or equipment shall be allowed in native habitats outside the construction limits.
- j. Unocal shall clearly mark biologically sensitive areas on grading plans and on site (prior to commencement of activity), and ensure that they are avoided by personnel and equipment.
- k. At oil spill remediation sites, oil field abandonment activities shall be completed prior to or concurrent with remediation, avoiding any redisturbance following the completion of remediation. Following on-site remediation activities, foreign material (*e.g.*, rock fragments, asphalt, abandoned equipment and debris) shall be removed from surface soils, except with the approval of the Executive Director. Original topography shall be restored to the extent possible, and stabilized if necessary by physical means such as jute netting.

- l. For sites where ongoing access is required (such as for monitoring or maintenance), a qualified biologist in cooperation with the independent Onsite Environmental Coordinator shall determine the most suitable access route. Access routes shall be clearly marked and off-road travel shall be confined to designated routes. Periodic surveys of the access routes, at a frequency determined by Unocal and the independent Onsite Environmental Coordinator in consultation with the appropriate resource agencies, shall be conducted by a qualified biologist in cooperation with the independent Onsite Environmental Coordinator to determine the presence of sensitive species and need for remedial action for environmental impacts, including weed establishment on the disturbed corridor. If the independent Onsite Environmental Coordinator determines that a more suitable route is present, then the new route shall be clearly marked and the old route shall be restored to preexisting conditions and clearly marked to preclude entry. Once the access routes are no longer required, they shall be included in a site specific Habitat Restoration, Revegetation and Monitoring Plan described in Special Condition 9.
- m. Lighting shall be shielded and directed away from the beach or sensitive wildlife habitat, to the extent feasible, unless otherwise approved by the independent Onsite Environmental Coordinator.
- n. Traffic shall be confined to existing roads and defined work areas. No equipment, vehicles, or personnel shall enter any designated exclusion area or area designated by the independent Onsite Environmental Coordinator as sensitive species habitat. Sensitive species habitat may be traversed only on foot with the permission of the independent Onsite Environmental Coordinator
- o. Prior to the startup of project activities, and as needed for new personnel, a qualified biologist approved by the Executive Director in consultation with the County Department of Planning and Building and other appropriate resource agencies shall conduct a brief training session for all personnel working on the oil field. Training shall include a brief description of all sensitive species potentially occurring on or near sites, details on each species habitat, the protective measures to be implemented for each species, a description of the role of the independent Onsite Environmental Coordinator and biological monitors, and the responsibilities of those on site to protect resources. A video may be produced to satisfy this requirement.
- p. Unocal shall enable an independent Onsite Environmental Coordinator to be present at the oil field at anytime, day or night, that ground-disturbing activities associated with site characterization, oil spill remediation, oil field abandonment, infrastructure installation, or infrastructure removal activities are taking place. Unocal shall notify the independent Onsite Environmental Coordinator of any such activities in a timely fashion. If sensitive species could potentially be affected, at the discretion of the independent Onsite Environmental Coordinator a biological monitor under the independent Onsite Environmental Coordinator's direction will be physically present at the site when project activities are occurring and shall monitor the construction zone

and suitable sensitive species habitat within the project vicinity. The monitor shall be notified immediately if any sensitive species is observed inside the construction work area or within 200 feet of the zone. Only the biological monitor, or other qualified biologists approved by the Executive Director shall handle or approach any sensitive species, except where lack of action would endanger the health of an individual animal. If construction operations threaten to injure individuals of a sensitive species, the biological monitor shall request the construction personnel to alter their activities so as to avoid such injury and shall immediately notify a designated Unocal representative and the independent Onsite Environmental Coordinator who will notify the Executive Director and the County Department of Planning and Building.

11. **Sensitive Species.** If sensitive species as defined by Special Condition 9a are present at any project site, Unocal will implement the following requirements:
  - a. Adjust or limit construction areas and access routes and construction timing to avoid impact to individuals or colonies of sensitive species.
  - b. Where impacts to sensitive plant species are unavoidable, develop and implement a salvage, propagation, and replanting program that will utilize both seed and salvaged (excavated) plants which constitute an ample and representative sample of each colony of the species that would be impacted. The program plan shall include measures to perpetuate to the greatest extent possible the genetic lines represented on the impacted sites by obtaining an adequate sample prior to construction, propagating them and using them in the restoration of that site. The salvage, propagation, and replanting program shall be approved by the Executive Director in consultation with the County Department of Planning and Building and other appropriate resource agencies before any activities that could potentially impact sensitive plant species or a separate mitigation plan that compensates for direct impacts (including mortality, decreased fitness (*e.g.*, growth or breeding success) and loss of habitat) and temporal losses shall be developed in consultation with, and be approved by, the Executive Director and other appropriate resource agencies within one year following habitat restoration at the site.
  - c. Where impacts to sensitive animal species or their habitats are unavoidable, Unocal shall develop and implement a capture and relocation program. Prior to ground disturbance, the site and the surrounding area for a minimum distance of 200 feet beyond the disturbance polygon will be searched and individuals captured using techniques appropriate to the species of concern (*e.g.*, visual examination, baiting, night lighting, netting, trapping) and approved by the appropriate resource agencies. Appropriate barriers to movement will be erected to minimize movement back into the construction area and the area will be periodically searched and immigrants removed. All captured individuals will be released as soon as possible into suitable habitat that has previously been identified or will be maintained in captivity and released where captured after restoration and revegetation is completed. The size or age-class, location of capture, and the relocation site shall be recorded for each individual relocated from

the site. The capture and relocation program shall be developed in consultation with, and be approved by, the Executive Director and other appropriate resource agencies. A separate mitigation plan that compensates for direct impacts (including mortality, decreased fitness (*e.g.*, growth or breeding success) and loss of habitat) and temporal losses shall be developed in consultation with, and be approved by, the Executive Director and other appropriate resource agencies, within one year following habitat restoration at the site. The mitigation plan shall include provisions for: (a) yearly surveys for sensitive species during the suitable season to determine relative population sizes, evidence of breeding, and distribution throughout the oil field; (b) reassessment of the suitability and effectiveness of proposed mitigation; and, (c) if needed, implementation of additional mitigation.

12. **Snowy Plover and Least Tern Breeding Season Avoidance.** Project activities on or near the beach and foredunes shall be scheduled to avoid western snowy plover and California least tern habitat during their breeding seasons (from March 1 to September 15) to the maximum extent feasible as determined by the USFWS.
13. **Snowy Plover and Least Tern Non-Disturbance Measures.** Under the direction of the independent Onsite Environmental Coordinator in cooperation with Unocal, an independent qualified biologist with western snowy plover and California least tern experience approved by the Executive Director shall visit the site regularly as determined by the USFWS throughout the construction phase and immediately prior to site characterization, oil spill remediation, oil field abandonment, infrastructure installation, or infrastructure removal activities to ensure that all practicable measures are being employed to avoid incidental disturbance of sensitive species and sensitive species habitats.
14. **Snowy Plover and Least Tern Monitoring.** Western snowy plover and California least tern populations shall be monitored by a qualified biologist approved by the Executive Director to determine breeding and fledgling success during project activities and for a duration determined by the USFWS and CDFG after project activities have been completed.
15. **California Red-Legged Frog.** At sites where California red-legged frog habitat is present, the following requirements will be implemented unless otherwise directed by the USFWS:
  - a. Pre-project surveys of California red-legged frogs shall be conducted by an independent qualified biologist approved by the Executive Director under the direction of the independent Onsite Environmental Coordinator and in cooperation with Unocal. The survey shall be conducted according to USFWS guidelines, throughout the proposed area of disturbance and within suitable habitat up to 500 feet away from the remediation area.
  - b. No site characterization, oil spill remediation, oil field abandonment, infrastructure installation or infrastructure removal activities shall occur within 200 feet of suitable

California red-legged frog breeding habitat November through March or as otherwise determined by USFWS

- c. Prior to commencing any project activities, Unocal shall fence project sites within 500 feet of California red-legged frog habitat to exclude California red-legged frogs from the disturbance zone. Captured red-legged frogs shall be relocated to predetermined suitable habitat outside of the construction zone. All non-native predators to the red-legged frog, including crayfish and bullfrogs captured during the relocation efforts, shall be destroyed.
  - d. For the duration of construction activities in the vicinity of California red-legged frog habitat, nighttime surveys for California red-legged frogs shall be conducted by Unocal at least twice per week or as directed by USFWS to ensure that red-legged frogs are not entering the work area. If a red-legged frog is found in the work area, only a biological monitor approved by the USFWS may relocate the frog.
16. **Salvage Topsoil.** For areas where vegetation and soil are to be removed, Unocal shall salvage and replace topsoil that is reasonably weed-free. In consultation with the resource agencies and revegetation specialists, Unocal shall develop a plan for removing the topsoil that will maximize, to the extent feasible, salvage of the seed bank. This plan must be approved by the Executive Director. Unocal shall not commence any soil or vegetation removal at any site until receiving written sign-off on said plan for that site from the Executive Director.
17. **Stockpiling Topsoil and Overburden.** Unocal shall stockpile clean top soil and clean overburden soil in previously disturbed areas, altered areas, or future excavation areas or in unvegetated areas to minimize impacts to erosion and sedimentation patterns. Proposed clean soil and clean overburden soil storage areas shall be prepared in a similar manner as the excavated area. This preparation shall include perimeter staking, brush raking, topsoil removal and stockpiling, and protective measures to prevent erosion of the topsoil stockpile. All proposed stockpile areas and erosion control measures shall be reviewed and approved by the Executive Director. Unocal shall not commence any stockpiling activity at any site until receiving written sign-off on said areas and measures for that site from the Executive Director.
18. **Aerial Photographs.** Unocal shall provide for a post-construction high resolution, vertical ortho rectified aerial photograph at a scale of 1:6000 or less to be taken of each site 3 years following the completion of revegetation. A report including the pre-construction and post-construction aerial photographs and a map with overlays containing vegetation polygons from the two aerial photographs shall be submitted to the Executive Director within 90 days of the date the post-construction photograph is taken.
19. **Wetland Delineation.** Every reasonable effort shall be made to avoid impacts to wetlands. Wherever ground-disturbing activities will occur, a preliminary wetland assessment shall

be made by a qualified wetland delineator in cooperation with the independent Onsite Environmental Coordinator. If, in the opinion of the independent Onsite Environmental Coordinator, there is evidence of frequent soil inundation or saturation, hydric soils, or a prevalence of hydrophytic vegetation, a formal wetland delineation shall be conducted by a qualified delineator approved by the Executive Director in consultation with other resource agencies. The delineation shall be conducted in cooperation with the independent Onsite Environmental Coordinator and will be based on the criteria accepted by the California Department of Fish and Game and the Coastal Commission. If wetlands are present in areas of potential impact, their boundaries shall be accurately determined and mapped. Unocal shall submit a report to the Executive Director and other appropriate agencies prior to the initiation of site characterization, oil spill remediation, oil field abandonment, infrastructure installation, or infrastructure removal activities. Unocal shall not commence any ground-disturbing activity at any area of potential impact until receiving written sign-off on said report for that area from the Executive Director

20. **Wetland Restoration and Mitigation Plan.** If any project activities could result in unavoidable impacts to wetlands, Unocal shall submit a **Wetland Restoration and Mitigation Plan** in the form of an amendment to this permit. The plan must be approved by the Coastal Commission prior to initiation of project activities that could result in unavoidable impacts to wetlands. The Wetland Restoration and Mitigation Plan shall include, but not necessarily be limited to, the following elements:
- a. The ratio of the area of created or restored wetlands to the area of impacted wetlands shall be 4 to 1, unless otherwise required by resource agencies.
  - b. To promote the reestablishment of desired wetland and transition habitats where these habitats have been excavated, post-treatment ground elevations shall be established so as to provide saturated surface soil conditions at the lowest points, surrounded by zones of gradual transition (averaging less than 5 percent slope) to provide a range of microhabitats that can accommodate the requirements of sensitive plant species. Final elevations shall be determined based on monitoring records for the site and the observation of groundwater depths during remediation.
  - c. A plan for monitoring dissolved-phase diluent to ensure detection of exposures approaching potential damage thresholds as determined by the USFWS and CDFG. Monitoring reports shall be submitted to the Executive Director, the County Department of Planning and Building, USFWS and CDFG quarterly or whenever thresholds are exceeded.
  - d. The restored or created wetland and adjacent upland and transitional habitats within 100 feet, or a greater distance if required by appropriate resource agencies, shall be included in the Habitat Restoration, Revegetation, and Monitoring Plan described in Special Condition 9.

21. **Loop Road Limitations.** During November through March of each year, Unocal shall limit use of the "loop" road to foot traffic and emergency vehicles only, unless otherwise authorized by USFWS. During March through September of each year, Unocal shall exclude all foot and vehicle traffic on the loop road, except for emergency vehicles, unless otherwise authorized by USFWS. Unocal shall enforce a 5-mph speed limit for all traffic on the loop road.
22. **Past Project Restoration.** For each area disturbed as a result of remediation activities authorized by emergency permits E-94-12-G, E-95-18-G, E-97-03-G and E-98-09-G, Unocal shall within 60 days of issuance of this permit submit to the Executive Director for review and approval a site-specific **Habitat Restoration, Revegetation and Monitoring Plan** as described in Special Condition 9 of this permit. These site-specific plans may exclude those pre-disturbance requirements that cannot be complied with because of the emergency nature of the remediation activities. Available pre-disturbance information collected at the sites of disturbance or at nearby sites in similar habitat shall be included in each plan. Unocal shall include a restoration schedule in each plan.
23. **Interim Site Stabilization Plan.** Within 30 days of issuance of this permit, Unocal shall submit to the Executive Director for review and approval an **Interim Site Stabilization Plan** for all foredune and dune area adversely affected by remediation activities carried out under the authority of emergency permits E-94-12-G, E-95-18-G, E-97-03-G and E-98-09-G. The plan shall include: (a) methods for substrate stabilization and erosion control; (b) methods for controlling the influx and establishment of undesirable plant species; and (c) a monitoring program. The Interim Site Stabilization Plan shall be implemented until a site-specific Habitat Restoration, Revegetation and Monitoring Plan as required by Special Condition 9 of this permit is approved by the Executive Director and implemented by Unocal.
24. **NPDES Construction Storm Water Activity Permit.** Prior to issuance of this permit, Unocal shall submit to the Executive Director a NPDES Construction Storm Water Activity Permit approved by the RWQCB. The Pollution Prevention Plan shall specify Best Management Practices ("BMPs") to reduce erosion of disturbed soils within and adjacent to construction and staging areas. These BMPs may include but are not limited to: use of hay bales, silt fences, sediment traps, coffer dams, and containment berms.
25. **Water Turbidity Monitoring.** For project activities that have the potential of increasing water turbidity, Unocal shall monitor weekly the Santa Maria River and surface water bodies for turbidity during construction activities to determine whether construction is increasing turbidity. Prior to ground disturbance, turbidity shall be monitored at the proposed construction sites and, in the case of activities near the river, at a nearby control site in the river upstream from the project. These sites will also be monitored during construction activities. If there is a visible turbidity plume emanating from the construction site or if there is a measured relative increase in turbidity levels near the construction site of 20 percent or more, construction activities shall be halted until additional remedial actions are approved by the Executive Director. Similar monitoring shall be conducted at all

locations where construction activities are planned within 100 feet of surface water resources.

26. **Equipment Storage.** Equipment and materials, particularly materials that can cause turbidity and sedimentation, shall be stored inside bermed areas where surface runoff can be controlled and kept away from surface water.
27. **Revised Oil Spill Contingency Plan.** Prior to issuance of this permit, Unocal shall submit to the Executive Director for review and approval a revised Oil Spill Contingency Plan that includes the following components:
  - a. A Wildlife Exclusion Plan;
  - b. A Wildlife Response Plan; and
  - c. An updated list of on-site Hazwoper trained personnel.

Unocal shall not commence clean-up activity at any site until receiving written sign-off of said plan from the Executive Director.

28. **Water Quality Samples.** During the 5X West and East excavations, Unocal shall, with oversight by the independent Onsite Environmental Coordinator, collect weekly samples of ocean water, interstitial water, and sediments at the point of ground water discharge at low tide on the sandy beach and analyze them for elevated hydrocarbon concentrations per the direction of the California Department of Fish and Game's Office of Spill Prevention and Response ("CDFG/OSPR"). The results shall be provided to CDFG/OSPR within 24 hours of sample collection. If CDFG/OSPR determines that 5X excavation activities are causing, or have a high likelihood to cause, marine discharges of hydrocarbons, all activities shall cease until the Executive Director and other affected agencies in consultation with Unocal determine how the excavation activities can be conducted without causing additional discharges. Unocal shall not re-commence any activity at any site until receiving written authorization from the Executive Director.
29. **Spill Samples.** If a release into the Santa Maria River or ocean occurs due to project activities, Unocal shall with oversight by the independent Onsite Environmental Coordinator collect samples as soon as practicable such that quantification of the spill volume can be estimated and potential impacts to biota and water quality can be evaluated. Unocal shall provide split samples to the CDFG/OSPR and the RWQCB as requested.
30. **5X Sheetpile Wall Monitoring.** During the life of the 5X sheetpile wall, Unocal shall implement the *Unocal Guadalupe Sheetpile Wall Monitoring Program* (dated August 20, 1998).

31. **5X Sheetpile Wall Sand Coverage.** Between September 30 and March 1 of each year, Unocal shall ensure that the 5X sheetpile wall is covered with sand, except in those locations where the Santa Maria River is immediately adjacent to the 5X sheetpile wall.
32. **Sheetpile Location.** Prior to sheetpile installation at each excavation site, the Executive Director shall review and approve sheetpile locations, and provide a written sign-off, to ensure that site disturbance is minimized. The temporary sheetpile shall be removed immediately upon completion of each excavation and backfill.
33. **Sheetpile Design Standards.** Unocal shall design all sheetpile walls with appropriate safety factors to account for earth pressures, hydraulic head, earthquake loading, equipment loading, and other design features, as appropriate. Engineering designs for excavation and sheetpile shall: (a) be prepared and certified by a licensed civil engineer; (b) conform to Cal/OSHA and County of San Luis Obispo regulations for excavation, shoring and backfill; and (c) be submitted to the Executive Director for review and approval prior to ground disturbance at each plume excavation site.
34. **Sheetpile Impacted by River or Ocean.** For all sheetpile that has the potential to be exposed to currents, wave forces or to direct inundation from either the Santa Maria River or the Pacific Ocean, the seaward edge of the sheetpile and any associated energy dissipation system (which shall be limited to sand berms or sand bags constructed or filled using imported sand or sand from approved borrow areas) shall be designed to withstand the appropriate significant storm conditions as follows:
  - a. Excavation activities shall employ appropriate engineering controls and procedures to prevent the release of hydrocarbons to the environment in the event of overtopping or flooding.
  - b. For all sheetpile and associated energy dissipation systems for excavation sites other than 5X, design conditions shall be specified, in detail, on the engineering plans. The engineering plans shall be submitted to the Executive Director for review and approval.
  - c. The sheetpile for the 5X West and East plume excavations shall be designed to withstand the March 1, 1983, wave conditions (noted as the 100-year storm event), resulting in a maximum wave run-up height of 8 feet, combined with a 7-foot astronomical tide, and a scour depth of 0.0 feet (local Guadalupe datum). Engineering designs for the 5X sheetpile and associated energy dissipation system shall be submitted to the Executive Director for review and approval prior to ground disturbance at each plume excavation site.
35. **Tsunami.** In the event of a tsunami warning, all personnel and all movable construction equipment shall be removed from the beach area and moved to a safe elevation, based upon the warning. If no elevation is given in the warning, all personnel shall be evacuated to an elevation at or greater than 100' mean sea level and movable equipment shall be moved to

or above the "B" road. If equipment cannot be moved within the time allowed by a tsunami warning, to the extent safe and feasible, equipment shall be secured or anchored, and efforts shall be made to remove or drain all fuel tanks and to take all safe steps to prevent marine releases of hydrocarbons.

36. **Backfill Sand Sources.** Unocal may stockpile contaminated soil at Tank Battery 9 or Tank Battery 8 pursuant to the *Former Guadalupe Oil Field Implementation Plan, May 15, 1998* (with subsequent amendments June 15, 1998 and October 27, 1998). Backfill sources may include:

- a. Treated soil that satisfies the RWQCB parameters for concentrations of TPH and other constituents for approved backfill material;
- b. Borrow site Q11;
- c. Borrow site Q4; and
- d. Clean material stockpiled on site from previous activities.

Material treated at an on-site thermal desorption unit that satisfies the RWQCB's treatment parameters for approved backfill material.

37. **Sediment Grain-Size Analysis.** Sediment grain-size analysis of the removed and replacement material for each excavation site shall be conducted, recorded and submitted to the Executive Director for review and approval unless Unocal demonstrates that grain size is not a concern for any particular excavation due to the backfill sequence or excavation location. No filling of an excavated area shall occur until the grain-size compatibility between the removed sediment and the replacement sediment is approved by the Executive Director. To evaluate replacement material suitability, Unocal shall provide the following information:

- a. Sources of possible replacement material;
- b. Volume of replacement material needed;
- c. Sieve analyses for all possible replacement material and native sands (16<sup>th</sup>, 50<sup>th</sup>, and 87<sup>th</sup> percentile grain sizes by weight, at a minimum);
- d. Overfill ratio for sites subject to erosional forces by ocean waves and the river; and
- e. Color analysis and color sample of all native material and replacement material that has a potential to become exposed.

38. **Scheduling Excavations.** Unocal shall schedule to the maximum extent feasible excavations that are located within the viewshed of Rancho Guadalupe County Park during periods of lowest visitation (December through March) to Rancho Guadalupe County Park.
39. **Warning Public of Project Activities.** Prior to commencing with project activities, all areas with hazards associated with mechanical equipment, physical barriers, and excavation shall be clearly marked, warning the public of the hazards, and informing the public of the activities that are taking place. Adequate fencing shall be constructed around these areas to prevent trespassing and vandalism throughout the remedial and restoration period. During active remediation activities that take place near points of public access at the beach, Unocal shall station a worker at the beach to keep the public at a safe distance from active remediation hazards.
40. **Posting Signs.** At least one week before beginning project activities, Unocal shall coordinate with the Nature Conservancy and the California Department of Parks and Recreation to provide notice to beach users of project activities. Signs in English and Spanish shall be posted at the Rancho Guadalupe County Park and Oso Flaco Lake Natural Area parking lots. The signs shall indicate that the beach will remain open during remedial activities.
41. **5X Sheetpile Wall Removal.** The 5X sheetpile wall shall be removed at the earliest opportunity following excavation of the 5X plume. If the river or lagoon is present in front of the 5X sheetpile wall at the time of its removal, Unocal shall take the following actions:
  - a. Schedule sheetpile removal for the period November through January to avoid nesting of the tidewater gobies, unless otherwise allowed by the USFWS; and
  - b. Prior to removal of the 5X sheetpile wall, Unocal shall contour the land on the west side of the site to a stable slope that would minimize the probability of a cave-in into the lagoon or river after the sheetpile and HDPE walls are removed.
42. **Geobag Removal.** Unocal shall remove all geobags at the earliest opportunity following excavation of all plumes and sumps authorized by this permit.
43. **Conservation Easement.** Prior to the lapse of existing Offer to Dedicate ("OTD") Instrument No. 23795, Unocal shall offer for dedication to a public agency or private conservation organization approved by the Executive Director, a conservation easement covering an area extending from the southerly boundary to the northern boundary of the site, from mean high tide easterly to the east side of the B Road. This new offer to dedicate shall, when recorded, supercede and replace the existing OTD. In order to expedite acceptance of either the existing OTD or the new replacement OTD, Unocal shall also issue a fully executed Indemnification Agreement in form and content as set forth in Exhibit 16 to any entity approved in writing by the Executive Director (in consultation with the County of San Luis Obispo Planning Director) to accept the OTD. The Indemnification

Agreement shall provide that it shall take effect upon the recordation by the approved entity of its acceptance of the OTD. The OTD shall be effective for at least 25 years after the issuance of a closure letter for the site by the RWQCB and shall be consistent with the requirements of CDP 409-24 issued by the California Coastal Commission on January 4, 1980. Unocal may seek an amendment to this permit requesting a modification of the requirements of this condition on the ground that circumstances beyond Unocal's control, such as a refusal to the current owners of the Guadalupe Dunes to transfer title to that property to Unocal despite Unocal's best efforts to effectuate such a transfer, make it impossible for Unocal to comply with such requirement by the deadline specified for such compliance.

44. **Public Access Easement.** Prior to the lapse of existing OTD Instrument No. 23796, Unocal shall offer for dedication to a public agency or private conservation organization approved by the Executive Director and the County of San Luis Obispo Planning Director a public access easement covering an area extending from the mean high tide line, east 300 feet from the southerly to the northerly property lines of the site for the purpose of managed public access (*e.g.*, no public access during the nesting season of the snowy plover). This new offer to dedicate shall, when recorded, supercede and replace the existing OTD. In order to expedite acceptance of the existing OTD or the new replacement OTD, Unocal shall also issue an Indemnification Agreement in form and content as set forth in Exhibit 16 to any entity approved by the Executive Director (in consultation with the County of San Luis Obispo Planning Director) to accept the OTD and the Indemnification Agreement shall provide that it shall take effect upon the recordation by the approved entity of its acceptance of the OTD. The OTD shall be effective for at least 25 years after the issuance of a closure letter for the site by the RWQCB and shall be consistent with the requirements of CDP 409-24 issued by the California Coastal Commission on January 4, 1980. Unocal may seek an amendment to this permit requesting a modification of the requirements of this condition on the ground that circumstances beyond Unocal's control, such as a refusal to the current owners of the Guadalupe Dunes to transfer title to that property to Unocal despite Unocal's best efforts to effectuate such a transfer, make it impossible for Unocal to comply with such requirement by the deadline specified for such compliance.

#### **4.0 FINDINGS AND DECLARATIONS**

The Commission finds and declares as follows:

##### **4.1 Project Location**

The Guadalupe oil field site is located on the central coast of California approximately 15 miles south of the City of San Luis Obispo (Exhibit 1). It occupies over 2,700 acres of the larger Guadalupe-Nipomo Dunes Complex. Most of the site is within San Luis Obispo County, though a small portion extends into Santa Barbara County along the southern boundary. The site is bounded on the south by the Santa Maria River and estuary/lagoon system, on the west by the

Pacific Ocean, on the north by Nature Conservancy-managed sand dunes, and to the east by agricultural land.

The majority of the site consists of sand dunes ranging up to approximately 160 feet in elevation, while the western edge of the site is a relatively flat beach.

## **4.2 Project Background**

### **4.2.1 History of Oil Production at Guadalupe**

The Guadalupe oil field site is owned by the Andre Leroy and Eugene Rene Leroy Trusts and has been leased to Unocal since 1950. Oil exploration and production began on the Guadalupe site with the Sand Dune Oil Company in 1946. Unocal has operated the Guadalupe oil field since 1953. By 1988, the field contained 215 potential producing wells and field-wide oil production rates of 3,500 barrels per day. About 23 wells remained in operation until April 1994.

In the 1950's, Unocal introduced a refined petroleum hydrocarbon referred to as "diluent" (a kerosene-like additive used to thin oil) to assist in the production and transportation of heavy crude oil. The diluent was transported to the site by pipeline and truck and distributed throughout the oil field by a system of storage tanks and pipelines. Over the years diluent leaked from tanks and pipelines and is now present in soils and groundwater at the site.

### **4.2.2 Discovery of Contamination/Site Assessment**

In January 1988, petroleum hydrocarbons were first discovered by surfers on the beach and in the ocean at the Guadalupe oil field. In January 1990, California Department of Fish and Game ("CDFG") staff noticed diluent surfacing in the sand in front of the 5X well pad. At that time, the Central Coast Regional Water Quality Control Board ("RWQCB") ordered Unocal to investigate the source of the diluent spill. In February 1990, Unocal reported oil on the beach, shut down field operations and discontinued use of diluent in its production operations<sup>2</sup>.

In March 1990, Unocal installed a subsurface bentonite slurry wall in front of the 5X well area to stop diluent from reaching the ocean. The CDFG and the RWQCB also discovered diluent surfacing at a site called C-12 that is adjacent to the river estuary. In December 1991, Unocal installed a subsurface high density polyethylene ("HDPE") wall at the C-12 site to prevent migration of the diluent into the river.

Because diluent continued to surface on the beach, the RWQCB in 1993 ordered a site-wide investigation of petroleum-hydrocarbon contamination in the soil and groundwater at the oil field. The CDFG investigation also led to the filing of criminal charges against Unocal and six of its employees. The defendants pleaded "no contest" to the criminal charges, were placed on three years probation, and fined \$1.3 million.

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<sup>2</sup> For a short period of time, Unocal brought part of the field back into production and used warm water, not diluent, to enhance crude oil production and transportation.

Since 1993, Unocal has conducted site assessment activities throughout the oil field under the direction of the RWQCB. To date, over 90 diluent plumes and 150 sumps (*i.e.*, areas of concentrated and contaminated wastes consisting of drilling muds, heavy metals, and a variety of petroleum products) have been identified (Exhibits 2 and 3). Between 8.5 and 20 million gallons of petroleum hydrocarbons are present in the soil and groundwater.

The contamination consists of both "separate-phase" (*i.e.*, free product) and "dissolved phase" diluent. Since diluent is lighter than water and has a low solubility, most of the diluent spilled to the shallow dune aquifer remains as separate-phase and "floats" on top of the water. Separate-phase diluent is also present in the soil column above the groundwater. Some of the diluent dissolves into the groundwater and moves downstream with the groundwater flow, generally from east to west (*i.e.*, dissolved-phase). This has resulted in groundwater contamination beneath much of the site with a flux toward the ocean and Santa Maria River. In several areas the contaminated groundwater is entering surface water bodies. Of the diluent contaminated areas, there are four very large plumes: the 5X beach area, the Diluent Tanks area, the Compressor Plant area and Tank Battery 9 (Exhibit 2). The thickness of diluent floating on the water table ranges from a sheen on top of the water to thicknesses of almost 6 feet.

#### **4.2.3 Coastal Commission Original Permit Jurisdiction**

The entire Guadalupe oil field site is within the coastal zone. The County of San Luis Obispo has a certified local coastal program ("LCP") and therefore has coastal permitting jurisdiction over the majority of the site. The Coastal Commission retains permitting jurisdiction over the area of the site that are public trust lands, tidelands and submerged lands<sup>3</sup> (See Exhibit 4). All County-issued coastal permits for development at the site are appealable<sup>4</sup> to the Coastal Commission.

#### **4.2.4 History/Summary of Past County and Coastal Commission Permits**

##### ***Installation of a Bentonite Wall***

In January 1990, diluent was found to be leaking from the 5X area into the marine environment. In March 1990, Unocal installed a subsurface bentonite/soil barrier slightly above the mean high tide line within an area that falls within the County's coastal permit jurisdiction. The wall was about 800 feet long by 18 feet deep and 4 feet wide. The wall was intended to create a barrier to further seaward migration of the diluent. Fifteen wells were installed on the landward side of the wall to extract diluent and prevent it from flowing around the bentonite wall.

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<sup>3</sup> The extent of tidelands and submerged lands is based on the "mean high tide line." Because this is an ambulatory line, maps depicting the Commission's retained and appeal jurisdiction cannot precisely show this boundary.

<sup>4</sup> Coastal Act § 30603(a)(1)(2)(5) allows for appeals of development (a) located between the sea and the first public road paralleling the sea or within 300 feet of the inland extent of any beach or of the mean high tide line of the sea where there is no beach, whichever is the greatest distance, or (2) located within 100 feet of any wetland, estuary or stream, or (c) which constitute a major public works project or a major energy facility.

### ***5X Beach Excavation***

Additional diluent releases from the 5X area in January and April 1994 resulted in the U. S. Coast Guard directing Unocal to secure immediately all marine releases at Guadalupe. In August 1994, the Coastal Commission's Executive Director issued to Unocal emergency permit E-94-12 to excavate oil-contaminated sands in the 5X area.

Contaminated sand on the beach area was excavated to a depth of about 20 feet and removed from the beach to a treatment area. About 136,000 cubic yards of contaminated sand was treated using thermal desorption units that vaporize the diluent and incinerate the vapors. To remove the contaminated sand, Unocal constructed a large temporary sheetpile cofferdam (about 2,200 lineal feet of sheetpile varying in depth from 33 to 44 feet) on the beach. Unocal pumped extracted diluent to a temporary storage tank. About 250,000 gallons of diluent were removed from the excavation area.

This emergency work removed only a portion of the 5X plume. Concurrent with the beach excavation project, Unocal removed the bentonite wall and replaced it with a high density polyethylene ("HDPE") barrier wall to act as a barrier to prevent separate-phase diluent from migrating to the beach and ocean. Unocal installed extraction wells behind the HDPE wall to pump out diluent and contaminated groundwater.

### ***5X Sheetpile Wall Installation***

During 1995, the Santa Maria River changed course such that the outlet moved further north 3,000 feet along the beach to within 45 feet of the 5X area. This presented a serious threat to the HDPE wall. In November 1995, to protect the HDPE wall from damage resulting from further northward movement of the Santa Maria River, the Commission's Executive Director issued to Unocal emergency permit E-95-15-G to install a subsurface 370 lineal feet sheetpile protection wall on the beach. In November 1996, the Commission's Executive Director approved a second emergency permit (E-96-2-G) to extend the sheetpile wall 1,033 feet to the north and 450 feet to the southeast. In February 1997, the Commission's Executive Director issued a third emergency permit to strengthen the sheetpile wall with H-beam walers. Emergency permit E-97-03-G supercedes and also includes the earlier two emergency permits for the sheetpile wall.

Unocal proposes to keep the 5X sheetpile wall in place until the petroleum hydrocarbon-affected sand at the 5X site is removed.

### ***Leroy 2 Sump Removal***

During the spring and summer of 1995, when the Santa Maria River migrated north, a former sump associated with the abandoned Leroy 2 well was exposed approximately 800 feet south of the 5X plume (Exhibit 5). The sump released a sheen into the lagoon and river.

In November 1995, the California Department of Fish Game's Office of Spill Prevention and Response ("CDFG/OSPR") issued to Unocal Cleanup or Abatement Order 95-111 to prevent the release of contaminants into surface waters. On November 30, 1995, the Commission's Executive Director issued emergency permit E-95-18-G to remove the sump. The sump footprint area was about 50 feet wide by 350 feet long and contained about 2,840 cubic yards of contaminated material. The river subsequently eroded the area where the sump was located.

#### ***A2A South Plume/Sumps and Geobag Placement***

During the 1998 winter storm season, the Santa Maria River rapidly eroded away the northerly bank of the river near its outlet to the Pacific Ocean, threatening to expose four areas that contained hydrocarbon-affected material. In March 1998, the Commission's Executive Director issued to Unocal emergency permit E-98-03-G (which was modified in May 1998 and superseded by E-98-09-G) to remove the contaminated material before the river reached the area.

Emergency permit E-98-09-G specifically authorized: (a) removal of known sumps located at the southwest corner of the oil field (known as the A2A area); (b) temporary installation of 1,035 feet sheetpile and excavation of petroleum-hydrocarbon contaminated soil from an area known as the A2A plume; (c) placement of up to 160 geobags (*i.e.*, rectangular shaped bags fabricated of geotextile material each containing 8 cubic yards of sand) along the upper edge of the river bank next to the southwest corner of the "A" road; and (d) placement of up to 215 geobags along the A2A plume sheetpile wall if the river migrated to within 125 feet of the A2A plume.

Also, during the A2A area emergency work, Unocal, without benefit of a coastal development permit (*i.e.*, it was not included among the list of activities approved under emergency permit E-98-09-G) (Exhibit 5) improved the "loop" road that straddles two marsh ponds. In the course of improving the loop road, Unocal placed about 200 tons of rock and sand in the wetlands and smothered about 50 La Graciosa thistle, a California-listed threatened plant species. Unocal has agreed to remove the road base material from the loop road and develop and implement a La Graciosa thistle restoration and enhancement plan. Commission staff plan to bring the restoration proposal to the Commission at a future hearing as a separate coastal development permit application. USFWS and CDFG biologists have recommended to Commission staff and other permitting agencies that the road restoration work be carried out in September 2000, after the western snowy plover nesting and the California red-legged frog breeding seasons.

#### **4.2.5 Environmental Impact Report**

By 1996, Unocal had discovered 90 diluent plumes at the site and began developing an overall site remediation plan. In March 1996, Unocal submitted to San Luis Obispo County and the RWQCB a Remedial Action Plan ("RAP") to address the dissolved-phase and separate-phase diluent contamination in the soil and groundwater at the oil field. Unocal proposed a variety of approaches that includes containment (*e.g.*, physical and hydraulic barriers), treatment (*e.g.*, excavation or biosparging), and monitoring (*e.g.*, no cleanup of certain plumes).

The County used the RAP to begin the California Environmental Quality Act ("CEQA") review process for overall site cleanup and abandonment of the oil field. The Environmental Impact Report ("EIR") developed as part of the CEQA review evaluated the potential environmental impacts of the proposed cleanup and abandonment plan only, not the effects of the spill itself. The effects of the spill were evaluated through a separate Natural Resource Damage Assessment ("NRDA") process undertaken by the CDFG/OSPR and other California state trustee agencies (see Section 4.2.7 of this report).

The EIR evaluated a number of cleanup technologies that could be used at Guadalupe. A total of 100 remedial alternatives (*e.g.*, excavation, bioremediation, biosparging, pumping, containment with physical or hydraulic barriers) were first screened to determine their feasibility. Of the 100, the EIR identified 30 technologies that could "achieve effective cleanup" within 10 years and would result in the least environmental impacts. The EIR developed in detail two approaches to site cleanup: (a) excavate all plumes, or (b) use a mix of technologies that include excavation, biosparging, pumping, etc. The plumes located in the Commission's permit jurisdiction are to be excavated, notwithstanding the potentially significant adverse habitat impacts caused by excavation, since these plumes have the potential to release hydrocarbons into the river and ocean.

In March 1998, the County certified the EIR for Unocal's proposed Guadalupe cleanup and abandonment plan with the understanding that there would be future supplemental environmental review, as necessary, if new areas of contamination are discovered at the oil field or Unocal proposes project changes.

The County has since prepared an addendum to the EIR (September 1999) to address project changes such the excavation of newly discovered sumps that were not known at the time the EIR was prepared. The addendum also evaluated taking sand from an area of the site known as Q4 for excavation backfill material.

#### **4.2.6 Cleanup or Abatement Order No. 98-38**

In April 1998, the Central Coast RWQCB issued Cleanup or Abatement Order ("CAO") 98-38 (as amended November 1998) requiring Unocal to abandon and remediate the oil field using various technologies (Exhibit 6). The RWQCB decided to take a phased approach to site cleanup, proceeding first with cleanup of the 17 most critical plumes (those known to be introducing petroleum hydrocarbons into surface waters) while continuing with investigations into the total extent of site contamination. This phase of the cleanup project is referred to as "Phase 1" and is scheduled to take five years to complete. Phase 1 includes remediation of the large 5X plume located within the Commission's permit jurisdiction.

#### **4.2.7 Natural Resource Damage Settlement**

In March 1994, the California Attorney General's Office, representing the California Department of Fish and Game, the California Department of Toxic Substances Control ("DTSC"), the

Central Coast RWQCB, and California Coastal Conservancy, filed suit against Unocal for damages caused by Unocal's spill at the Guadalupe oil field. The lawsuit was settled in July 1998 when Unocal agreed to pay \$42.5 million in civil penalties and natural resource damages. The Stipulated Judgment includes the following terms (Exhibit 7):

- \$9 million to fund projects to restore, replace, rehabilitate and/or acquire the equivalent of the natural resources and related services that were injured, lost or destroyed by diluent releases. CDFG/OSPR and the Coastal Conservancy will allocate the funds;
- \$15 million for water quality projects within the Central Coast region to be selected by the RWQCB;
- \$11.1 million to CDFG to be deposited into the Fish and Wildlife Pollution Account for inland resource protection and pollution response;
- \$375,000 to CDFG/OSPR's Environmental Enhancement Fund to be allocated by CDFG/OSPR and the Coastal Conservancy;
- \$700,000 to DTSC; and
- The remaining funds go to the Attorney General's Office, CDFG/OSPR and others for costs associated with the lawsuit.

#### **4.2.8 San Luis Obispo County Approves Coastal Development Permit/ Development Plan D890558D**

On September 22, 1998, the San Luis County Board of Supervisors approved coastal development permit/development plan D890558D for Phase 1 of the Guadalupe oil field remediation and abandonment project. The County's coastal permitting jurisdiction covers 14½ of the 17 Phase 1 plumes.

#### **4.2.9 Appeal by Commissioners Wan and Areias**

On October 19, 1998, Coastal Commissioners Wan and Areias filed an appeal (A3-98-91) of the County's decision. The appellants contended that the development as described in coastal development permit/development plan D890558D did not conform to the County's certified LCP policies concerning public access, recreation and habitat preservation for the following reasons:

- LCP Policy section 23.04.420 establishes criteria for the requirement of public access that the appellants believe were not met by the conditions of the County permit. Specifically, Conditions 171 and 172 required Unocal to extend existing offers to dedicate ("OTDs") of lateral public access and conservation easements originally required in a 1980 Coastal Commission permit (CDP 409-24) "to at least 25 years after the issuance of a closure letter for the site by the RWQCB." It has been 19 years since the OTDs were originally required

and, because of ongoing site contamination, the OTDs have not been accepted by a public agency or private non-profit. To be fully consistent with the public access components of the certified LCP and the Coastal Act, the appellants stated that Unocal must include an indemnification provision within the OTDs so that they can be expeditiously accepted.

- The County's conditions for habitat protection and restoration are in many cases vague, inconsistent and lack performance standards to ensure that environmentally sensitive habitats are protected and restored as required by LCP policies 23.07.160 and 23.07.170.

At the November 1998 Commission meeting, staff recommended that the coastal permit approved by the County raised Coastal Act and LCP concerns regarding its conformity with public access, recreation and habitat preservation policies. Commission staff therefore recommended that the appeal raised a "substantial issue." However, Commission staff qualified its recommendation with the view that the issues raised by the appeal could be resolved if the County revised its conditions of approval to address fully the LCP and Coastal Act issues that were of concern.

Commission staff proposed to work with the County and Unocal in developing draft changes to the County's conditions for consideration by the Commission at a future hearing. If changes were agreed upon, the County would consider the revised conditions and adopt a revised permit. If the Commission was confident that all Coastal Act and LCP deficiencies were addressed, then the appeal could be withdrawn and the County's revised permit would be in effect.

The Commission agreed to allow staff to work with the County in developing revised conditions of approval and continued the Substantial Issue appeal hearing until December 1998.

At the December 8, 1998, Commission hearing, the Commission reviewed (a) revised conditions of approval to be added to the County's coastal permit to address the LCP and Coastal Act issues raised in the appeal, and (b) a draft Indemnification Agreement to be executed by Unocal for the OTDs. The County staff proposed taking these changes to the County Board of Supervisors for adoption at its December 10, 1998 hearing. The Commission agreed to this approach and passed a resolution opening and continuing the Substantial Issue appeal hearing. The Commission also concurred in the withdrawal by Commissioners Wan and Areias of the appeal if the County Board of Supervisors adopts the suggested revised conditions of approval.

On December 10, 1998, the County Board of Supervisors adopted the proposed revised set of conditions of approval and approved a revised permit (Exhibit 8).

On January 13, 1999, Commissioners Wan and Areias withdrew their October 19, 1998 appeal of the County's September 22, 1998 action.

#### 4.2.10 Discovery of PCBs at Several Plume Sites

RWQCB Cleanup or Abatement Order 98-38, as amended in November 1998, required Unocal to test diluent-contaminated soil at the oil field for non-diluent compounds (*i.e.*, Title 22 metals, polycyclic aromatic hydrocarbons, volatile organic compounds, and semi-volatile organic compounds).

In December 1998, Unocal submitted a report to the RWQCB that showed the presence of detectable levels of polychlorinated biphenyls<sup>5</sup> ("PCBs") in diluent samples taken from several plume sites, including 5X<sup>6</sup>. PCBs were also discovered in samples taken from the Diluent Tank area, Tank Battery 9, Tank Battery 8 and the Compressor Plant site. PCBs have not been identified outside of diluent-affected areas nor have they been detected in groundwater or in pond sediments.

After receipt of the initial results from the testing for non-diluent compounds, the USFWS and CDFG/OSPR were concerned that the Aroclor method used by Unocal for detecting PCBs was not sufficiently sensitive. Unocal agreed to retest all PCB-containing sites using congener and homologue analyses, and incorporate that information in a site-wide ecological risk assessment.

Given the urgency of addressing remediation of those plume sites closest to the ocean and the Santa Maria River, Unocal proceeded first with site-specific testing and ecological risk assessments for the 5X beach and A2A North sites. (Re-testing of the rest of the PCB-containing sites, and the accompanying site-wide risk assessment, are expected by mid-2000).

Congener and homologue PCB analyses of the additional soil samples taken from 5X and A2A supported the earlier (Aroclor) test results, indicating relatively low levels of non-diluent compounds, including PCBs, at these sites. These additional results, as well as results from several earlier studies on PCB risks to ecological receptors, were entered into an ecological risk assessment.

The ecological risk assessment for 5X and A2A North sites concluded that given the relatively low levels of PCBs and other non-diluent compounds, the remedial actions will not cause substantial incremental ecological risk to marine, aquatic or terrestrial plants or wildlife. (See Exhibit 9 for Executive Summary of 5X Beach and A2A North ecological risk assessment.) The RWQCB, CDFG/OSPR, the National Oceanic and Atmospheric Administration ("NOAA"), and the California Office of Environmental Health and Hazard Assessment (which served as a

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<sup>5</sup> PCBs, a family of synthetic chlorinated organic compounds, are carcinogenic and known to cause birth defects, reproductive alterations, liver damage, wasting syndrome and cancer. Invertebrates and fish are not very sensitive to the effects of PCBs. The main ecological concern with PCBs is biomagnification to upper levels of the food chain, usually wildlife that consume fish. The environmental medium of most concern is pond, lake and estuary sediments. Unocal has not identified the source of the PCBs in the diluent. A possible PCB source at the field includes oil for transformers and air compressors, but this does not explain the presence of PCBs in the diluent.

<sup>6</sup> PCB concentrations ranged up to 15 parts per million ("ppm") in free product, to 0.3 parts per billion ("ppb") in surface and ground water, to 30 ppb in pond sediment, and from less than 30 ppb up to 640 ppb in soils. 5X PCB concentrations in soil ranged to 05 ppm and in free product to 11 ppm.

consultant to the RWQCB) reviewed the ecological risk assessment for the 5X and A2A North sites and concurred with its conclusions. Accordingly, the agencies directed Unocal to proceed with its plans to excavate the 5X and A2A North plumes, as originally required by CAO 98-38.

#### **4.2.11 Summary of Remedial/Abandonment Activities Undertaken to Date**

Although the Phase 1 remediation schedule slipped due to the discovery of PCBs, Unocal has to date removed tanks and other associated infrastructure at the Diluent Tank Battery and Tank Battery 9 sites and removed 9.56 miles (50,500 feet) of pipeline throughout the oil field. Unocal has also installed biosparging<sup>7</sup> systems at Tank Battery 8, Tank Battery 9 and the former site of the Compressor Plant. The B3 sump has been excavated and a pilot phytoremediation project at the O13 site has been initiated. Pipeline abandonment also continues in areas outside of the Coastal Commission's permit jurisdiction.

### **4.3 Project Description**

#### **4.3.1 Past Beach Projects Authorized Under Emergency Projects**

Unocal seeks follow-up approval for remediation work conducted previously under the authority of emergency permits issued by the Coastal Commission's Executive Director. Between 1994-1998 the Executive Director issued the following emergency permits:

##### ***Emergency Permit E-94-12-G***

In August 1994, the Executive Director issued to Unocal emergency permit E-94-12 to excavate oil-contaminated sands in the 5X area and install a 965-foot long high-density polyethylene ("HDPE") wall on the beach to prevent further migration of diluent to the ocean (Exhibit 5).

Contaminated sand on the beach area was excavated to a depth of about 20 feet and removed from the beach to a treatment area. About 136,000 cubic yards of contaminated sand was treated using two thermal desorption units (located within the County's permit jurisdiction) to vaporize the diluent and incinerate the vapors. To remove the contaminated sand, Unocal constructed a large temporary sheetpile cofferdam on the beach. Unocal pumped extracted diluent to a temporary storage tank. About 250,000 gallons of diluent were removed from the excavation area. Thermally treated sand and stockpiled clean overburden (about 26,000 cubic yards) was used as backfill material on the beach.

This emergency work removed roughly one-third of the 5X plume. Concurrent with the beach excavation project, Unocal removed the bentonite wall and replaced it with a 965-foot long by 22-foot deep HDPE barrier wall to act as a barrier to prevent separate-phase diluent from

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<sup>7</sup> Biosparging is a process where air is introduced to the subsurface below the water table to promote the growth of aerobic microorganisms that could degrade the dissolved-phase diluent. Biosparging can be accomplished using vertical or horizontal wells. As the injected air sweeps upward through the diluent-affected groundwater and soil, it may also transfer volatile compounds from a liquid to a vapor phase.

migrating to the beach and ocean. Unocal installed extraction wells behind the HDPE wall to pump out diluent and contaminated groundwater accumulating behind the HDPE barrier. All temporary sheetpile was removed following HDPE wall installation.

#### ***Emergency Permit E-95-18-G***

During the spring and summer of 1995, the Santa Maria River migrated northward up the beach and exposed a former sump associated with the abandoned Leroy 2 well located 800 feet south of the 5X HDPE wall (Exhibit 5). The sump released a sheen into the lagoon and river.

In November 1995, the CDFG/OSPR issued to Unocal a Cleanup and Abatement Order 95-111 to prevent the release of contaminants into surface waters. On November 30, 1995, the Commission's Executive Director issued emergency permit E-95-18-G to remove the sump. The sump footprint area was about 50 feet wide by 350 feet long and 2,840 cubic yards of contaminated material was removed. The river subsequently eroded this area where the sump was located.

#### ***Emergency Permit E-97-03-G***

When the Santa Maria River migrated northward in Spring of 1995 it threatened to erode the sand supporting the HDPE wall in the 5X area. In three phases between March 1995 and February 1997, Unocal installed a total of 1,835 lineal feet of temporary sheetpile wall on the beach directly in front of the HDPE wall that was installed in the summer of 1994 under emergency permit E-94-12 (Exhibit 5). The purpose of the 5X sheetpile protective wall is to prevent scouring and undercutting of the existing HDPE wall due to the northern migration of the Santa Maria River. The sheetpile wall and the HDPE wall remain in place to prevent a marine release of diluent from the remaining two-thirds of the 5X plume until the 5X plume is fully excavated.

Sheetpile installation involved excavating about 1500 cubic yards of vegetated overburden and 12,320 cubic yards of clean unvegetated overburden, transporting the sheetpile from staging areas with a forklift and driving the piles with a crane-mounted electric or hydraulic pile hammer. The individual piles were driven to a depth of approximately -29 feet mean surface level ("msl"). The top elevation of the sheet pile is +15 feet msl. The site was backfilled and re-contoured with the stockpiled sand to its pre-construction grade. In 1997, movement of the river along the sheetpile wall caused deep scour along the southwest corner. To create a unified structural element in the existing sheetpile wall, Unocal welded steel H-beam walers to the face of the pile on both sides of the southwest corner.

Unocal proposes to remove the sheetpile protection wall when hydrocarbon-affected soils behind (*i.e.*, eastward) the HDPE wall are removed. The 5X sheetpile protection wall will be in place for a total of about five years until March 2001.

### ***Emergency Permit E-98-09-G***

During the 1998 winter storm season, the Santa Maria River rapidly eroded the northern bank of the river near its outlet to the Pacific Ocean, threatening to expose four areas that contained hydrocarbon-affected material. In March 1998, the Commission's Executive Director issued to Unocal emergency permit E-98-03-G (which was modified in May 1998 and superceded by E-98-09-G) to remove the contaminated material before the river reached the area.

In February 1998, Unocal commenced to: (a) excavate the Leroy 3 sump, the 2X sump and the Leroy 2 access road sump (a total of 7,490 cubic yards of sump material) located at the southwest corner of the oil field; (b) excavate 26,400 cubic yards of petroleum hydrocarbon-affected soil from an area known as the A2A South plume; and (c) place 121 geobags (*i.e.*, large sand bags 8 feet wide by 10 feet long by 3.5 feet high) along the upper edge of the river bank next to the southwest corner of the "A" road.

#### **4.3.2 Proposed Beach Projects**

Unocal proposes also to: (a) remove oil field pipelines no longer in use; (b) excavate those plumes and sumps that lie within the Coastal Commission's permit jurisdiction; (c) widen the "A" road; (d) install up to 100 monitoring wells; (e) modify and eventually remove associated infrastructure such as power, well pads and access roads; and (f) place additional geobags, if necessary. The proposed activities, known as the "Beach Projects", are described below.

#### ***Pipeline Removal***

Unocal proposes to remove 2.29 miles of oil pipeline that lie within the Coastal Commission's permit jurisdiction (Exhibit 10).

Throughout the oil field, Unocal has categorized the pipelines according to accessibility and proximity to ground surface. Category A pipelines are easily accessible and within 25 feet of an established access point. Category B pipelines are located more than 25 feet from an access point, lie below no more than two feet of ground surface and typically have no sensitive vegetation. Category C pipelines are more than 25 feet from an access point, are more than two feet below ground surface, or are located in an area with sensitive plant or animal species. The majority of Category C pipelines will be abandoned in place and filled with sand slurry. However, the County has required in coastal development permit/development plan D890558D that all Category C pipelines west of the "B" road in bare sand areas (*i.e.*, closest to the shoreline and meandering river) be removed. Therefore, Unocal proposes to remove all Category C pipelines that lie within the Commission's permit jurisdiction.

The 2.29 miles of pipeline proposed for removal include 542 lineal feet of Category A, 7,895 lineal feet of Category B, and 3,652 lineal feet of Category C pipelines.

To remove the Category B and C pipelines, Unocal will survey off road access corridors to determine the least environmentally sensitive areas. Wherever possible, the corridor will be established in an already disturbed area to minimize habitat impacts. Many of the pipelines will be removed during plume excavation activities.

### ***Plume Excavation***

Unocal proposes to remove by excavation diluent plumes at the 5X, A2A North and A5A sites (Exhibit 10). Unocal will conduct additional soil-boring activities to delineate further the areal extent of each plume, if required by the RWQCB. Each plume area will be shored with temporary sheetpile. Sheetpile will be installed at least 15 feet outside the 1,000 mg/kg Total Petroleum Hydrocarbon ("TPH") contour unless otherwise approved by the RWQCB.

Diluent plume excavation activities include:

- Removing and stockpiling the top 12 inches of vegetated "overburden" using scrapers, excavators, trucks and/or bulldozers. Site-wide stockpile locations will be used or new locations in areas that were previously disturbed, altered, planned for use in future excavation, or unvegetated.
- Using a crane-mounted electric or hydraulic pile hammer, Unocal will drive 33 to 75 foot long sheetpile.
- The remaining clean (unvegetated) overburden will be removed and temporarily stockpiled.
- The affected (diluent contaminated) material will be excavated, loaded into trucks, and transported to Tank Battery 8 or Tank Battery 9 where it will be stockpiled for future treatment.
- If free product is floating on the surface of the groundwater in the excavation pit, mechanical skimmers or vacuum trucks will be used to remove it.
- The bottom of the excavation will be "polished" using a submersible slurry dredge pump, if necessary. The slurry will be pumped to a decant area positioned within, or a desander/deoiler area located near the excavation site. After the sand, water and hydrocarbons are separated, the water will be returned to the excavation site. Hydrocarbons and affected sand will be transported to Tank Battery 8 or Tank Battery 9 for future treatment.
- The bottom of each excavation will be sampled for TPH using a 25-foot grid and the samples analyzed by a state-certified lab. The RWQCB is requiring in CAO 98-38 that the mean concentration of soil samples collected at the bottom of each excavation not exceed 700 mg/kg TPH. Backfilling of all excavations with clean sand will first require authorization by the RWQCB.

- The excavation will then be backfilled using the clean overburden from the site, sand imported from an on-site borrow location, and/or remediated sand from Unocal's on-site Land Treatment Unit<sup>8</sup>.
- The sheetpile will be removed and the area will be covered with a layer of the native clean overburden removed from the site in a configuration that approximates the original contours or the approved post-construction grading plan. The vegetated overburden will be spread over the previously vegetated areas.

Up to 100 monitoring wells will be temporarily placed at the excavated sites as a RWQCB post-construction monitoring requirement. The specific locations and numbers of wells at each excavation site will be determined by the RWQCB after each site excavation is complete.

### *5X Plume*

The large 5X plume will be removed in two subsequent years (between August and March of each year) to avoid each year's western snowy plover nesting season. Unocal divided the 5X plume into two areas, 5X West and 5X East. The 5X West area will be excavated first, since it has the greatest exposure to river migration and wave action. To conduct the excavation, a temporary staging area, equipment pad and access road will be constructed with aggregate or red rock adjacent to the southern edge of the 5X West excavation. All will be removed when 5X site activities are complete. In addition, diluent extraction wells will be installed at 5X East.

The 5X West plume consists of approximately 74,000 cubic yards of affected material. To remove the affected material, about 6,400 cubic yards of vegetated overburden and 87,000 cubic yards of clean overburden will be excavated and stockpiled. To conduct the 5X West project, approximately 2,590 lineal wall feet of sheetpile will be driven at the excavation boundaries to form the new north, south, east and west walls. The existing HDPE wall installed during the 1994 excavation project will be removed during excavation activities. Following 5X West activities, Unocal will remove 1,742 lineal wall feet of sheetpile (828 lineal feet of sheetpile will be left in place for the 5X East excavation).

The 5X lineal East plume consists of approximately 71,000 cubic yards of affect material. To remove the affected material, about 8,700 cubic yards of vegetated material and 76,000 cubic yards of clean overburden will be removed and stockpiled. To conduct the 5X East project, approximately 1,456 wall feet of sheetpile will be driven along the southern, eastern and northern edges of the 5X East excavation. The 5X East project includes also removal of the A4 sump and well pad located within the plume boundary (Exhibit 10).

Following excavation of 5X East, all sheetpile (approximately 4,119 lineal wall feet) will be removed, including the 5X sheetpile wall (1,835 lineal wall feet) installed in 1995-1997.

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<sup>8</sup> Landfarm bioremediation uses naturally occurring microorganisms for the degradation of hydrocarbons. Nutrients and water are added to the affected soil that is exposed to air. Unocal's pilot Land Treatment Unit encompasses about 4 acres at the Tank Battery 9 site.

### *A2A Plume*

The A2A North plume consists of approximately 4,300 cubic yards of affected material. It lies mostly underneath the existing A and 5X access roads and well pads. To remove the affected material, about 1,500 cubic yards of clean overburden will be removed and stockpiled. At this time, Unocal will also remove the Y4/A2A well pads. The 5X access road will be temporarily replaced for use in other excavations.

### *A5A Plume*

The plume at A5A is bisected by the Coastal Commission's permit jurisdiction boundary. There is approximately 2,900 cubic yards of affected material within the Commission's jurisdiction. The site may also contain about 600 cubic yards of sump material. To remove the affected material within the Commission's jurisdiction, about 275 cubic yards of clean overburden will be removed and stockpiled.

### *Improve Electrical System*

Prior to excavating the 5X plume, Unocal, in order to reduce air emissions, proposes to re-route the 5X site's electrical system outside the excavation footprint to provide power for the extraction system. Unocal proposes to install up to 11 new 40-50-foot power poles. Two potential routes for the poles are shown in Exhibit 10. Three or four 750 kVA concrete transformer skids (about 16 feet by 8 feet) will be installed temporarily adjacent to select power poles. The electrical system will be removed upon completion of the Beach Projects.

### *"A" Road Widening*

Construction activities at 5X and other beach excavation sites will require two-way truck traffic so as to avoid use of the nearby "loop" road that lies directly adjacent to wetlands and is a migration area for the California red-legged frog during breeding season. The A road is currently paved with asphalt varying in width from 12-15 feet. Unocal proposes to widen the road to a minimum width of 30 feet between the intersection of the B road and the A2A well pad to accommodate two-way heavy equipment traffic (Exhibit 10). About 1,800 cubic yards of red rock will be used to widen the portion of the A road that lies within the Commission's permit jurisdiction (about 1,100-1,150 feet). A geotextile fabric will be laid prior to placing the red rock to facilitate its eventual removal. Road widening will require the removal of 5,800 cubic yards of clean "overburden" that will be stockpiled on well pads located outside of the Commission's permit jurisdiction.

Unocal proposes to remove the A road when the RWQCB determines that no further remedial actions are required in the area served by the "A" road. Removal of the A road, both the widened and existing portions, will require an amendment to this permit.

### ***Geobag Placement***

As of October 1999, the mouth of the Santa Maria River is currently 2,260 feet south of the 5X plume area. If the Santa Maria River migrates north and poses a threat to the 5X site, Unocal proposes to place up to 100 geobags (*i.e.*, large sand bags 8 feet wide by 10 feet long by 3.5 feet high) at the southwest corner of the 5X sheetpile wall for the duration of the 5X excavation project. Unocal also proposes to place up to 40 geobags along the southwest corner of the oil field site if needed for erosion protection (Exhibit 10). Unocal has already placed 121 geobags along the river edge at the southwest corner of the oil field under the authority of emergency permit E-98-09-G.

The geobags will be filled with sand acquired from the Coast Rock quarry or other comparable source. A crane or similar equipment will place each bag on the upper bank of the river, where it can slide into place if the river erodes the sand and undermines the bag. Each bag will be numbered. When the Beach Projects are complete Unocal will remove each bag, including the 121 bags placed under the authorization of emergency permit E-98-09-G. If a bag cannot be lifted intact, it will be cut to release the sand and the bag material will be completely removed.

### ***Remove Sumps and Oil Layers***

In November 1998, the RWQCB revised CAO 98-38 to require newly discovered sumps on the western side of the oil field to be excavated. Unocal proposes to remove a total of 14,135 cubic yards of sump material from six sites known as the Leroy 3, A2A, A1/2X, TB4, D14, and B11 sumps (Exhibit 10). Removal of a sump is similar to plume excavation except some sumps may be composed of solid materials only. If during sump removal groundwater is reached and free product is generated, Unocal will use mechanical skimmers, vacuum trucks and/or booms and sorbent material to remove it. The RWQCB will determine when Unocal has successfully removed all sump material and then Unocal will backfill the excavation hole with clean sand.

While removing the sump material, Unocal will also remove any associated access roads and well pads.

The western side of the field also contains two "oil layers", thin layers of oil that were applied to the sand dunes for stabilization (Exhibit 10). The 5X oil layers, under and near the 5X access road, consist of about 500 cubic yards of thin dry layers of oil. Unocal will remove the 5X oil layers following excavation of 5X East in conjunction with removal of the 5X access road. The Leroy 6 oil layers are located north of the 5X site and consist of about 10,000 cubic yards of affected material.

### ***Backfill Sources***

There are several sources for backfill material that will be used to replace the affected material removed from each site. These include existing stockpile sites, material treated at Unocal's pilot on-site Land Treatment Unit, and on-site "borrow sites" Q4 and Q12.

The Q4 borrow site is a large active sand dune located in the northeast corner of the oil field. The entire sand dune consists of an estimated 9,660,000 cubic yards of sand. Unocal proposes to take up to 500,000 cubic yards of material from the dune for Phase I remediation projects. The Q12 borrow site has already been used for past excavations and could provide an additional 22,000 cubic yards of clean sand.

### ***Beach Project Work Schedule***

Projects within the Commission's permit jurisdiction, with the exception of the D14 and B11 sumps, are in beach areas used as nesting habitat by the western snowy plover. These projects will be carried out between the snowy plover breeding seasons (usually September 15 – March 1). However, the beach sites are also in close proximity to wetlands providing breeding habitat to the California red-legged frog. Since the red-legged frog breeds during the winter months, project traffic will be limited to daylight hours to the maximum extent feasible.

Unocal will conduct the work each day between sunrise and sunset. The shift may vary from 8–12 hours per day, 5–6 days per week. However, Unocal may want to extend the work hours into a seventh day, if necessary, to meet the ecological time constraints of the project (such as completing beach activities prior to the snowy plover breeding season).

Unocal plans to conduct the Beach Projects in the following general order: (1) remove the 2.29 miles of pipeline; (2) widen the "A" road and modify the electrical system; (3) excavate 5X West; (4) excavate the remaining portion of the Leroy 3 sump; (5) excavate 5X East and remove any sump/well pad; (6) excavate the A2A North plume, A2A sump, A1/2X sump, and the Leroy 6 and the 5X oil layers; (7) remove the 5X access road and the Y4/A2A well pads; (8) excavate the TB4 sump and A5A plume, and remove the A5A well pad; (9) excavate the D14 sump; and (10) excavate the B11 sump and access road.

Unocal's Beach Project schedule is provided as Exhibit 11 of this report.

## **4.4 Other Agency Approvals**

### **4.4.1 Central Coast Regional Water Quality Control Board**

On April 3, 1998, the Central Coast RWQCB issued Cleanup or Abatement Order 98-38 requiring Unocal to remediate and abandon the Guadalupe oil field. The order was amended on July 13, 1998, and again on November 6, 1998. The RWQCB is taking a phased approach to remediation and abandonment, proceeding with cleanup of the 17 most critical plumes (those known to be introducing contamination to surface waters) while still continuing with investigations into the total extent of the contamination. Cleanup of the first 17 plumes is divided into six phases, and is expected to take five years. Cleanup of the balance of the 90 plumes will occur under future Cleanup or Abatement Orders.

Unocal must obtain a NPDES Construction Storm Water Activity Permit for activities associated with the Guadalupe oil field remediation and abandonment project. This NPDES permit specifies the installation and maintenance of Best Management Practices ("BMPs") to reduce erosion of disturbed soils within and adjacent to construction and staging areas, and is viable for as long as Unocal maintains an up-to-date Storm Water Pollution Plan ("SWPP").

#### **4.4.2 County of San Luis Obispo**

In March 1998, the County of San Luis Obispo certified an EIR for Unocal's proposed Guadalupe oil field abandonment and remediation plan. On December 10, 1998, the County approved coastal development permit /development plan ("CDP/DP") D890558D for the Phase I cleanup and abandonment projects identified by the RWQCB in CAO 98-38. A history of the Coastal Commission's appeal of the County coastal permit, and the Commissioner's subsequent withdrawal of that appeal, is provided in Section 4.2.9 of this report.

Some sites and activities at the oil field were not fully considered under CDP/DP D890558D but were later judged to be in Substantial Conformance with the County permit. For example, in April, 1999, the County processed a Substantial Conformity Determination for emergency actions at the M4 site, a site that had been scheduled for full excavation as part of Stage 3 of Phase 1 but since has been delayed due to the discovery of PCBs at the site. Phytoremediation activities at site O13, a project not considered under the EIR, were processed by the County as a Substantial Conformity Determination in June, 1999. Both of these sites are outside the Coastal Commission's permit jurisdiction, but the actions were appealable to the Coastal Commission.

Since issuance of CDP/DP D890558D, there have been new sumps discovered by Unocal and other small project changes not evaluated in the EIR. Therefore, in September 1999, the County's consultant, Arthur D. Little, prepared an addendum to the EIR.

#### **4.4.3 California Department of Fish and Game**

In accordance with Fish and Game Code Section 2081, Unocal must apply for and receive an Incidental Take Permit from the CDFG before beginning any work at the Guadalupe oil field that could impact state endangered, threatened or candidate species. The proposed project includes two species listed by the state as "endangered" (California brown pelican, California least tern) and three as "threatened" (La Graciosa thistle, surf thistle, beach spectacle-pod). All of these are "covered" species that have real or potential probability of occurrence at one or more beach project sites, and of being "incidentally taken" during project cleanup and remediation activities.

#### **4.4.4 U.S. Army Corps of Engineers**

The U.S. Army Corps of Engineers ("ACOE") is issuing a Letter of Permission and Nationwide Permit 38 (Cleanup of Hazardous and Toxic Waste) for the remediation and abandonment activities within the Commission's permit jurisdiction. The Letter of Permission and Nationwide

Permit 38 become effective upon the Coastal Commission's approval of this coastal development permit application.

The ACOE has determined that the Beach Projects may adversely affect the federally-listed California red-legged frog, western snowy plover, tidewater goby, California least tern, California brown pelican, the La Graciosa thistle (proposed for listing) and critical habitat for the western snowy plover. To comply with Section 7 of the federal Endangered Species Act, the ACOE will consult with the U.S. Fish and Wildlife Service ("USFWS"), and use the USFWS Programmatic Biological/Conference Opinion for Coastal Listed Species for the plover (including proposed critical habitat), tern, pelican and goby, and the Programmatic Biological Opinion for the California red-legged frog. The ACOE is also requesting a conference opinion from the USFWS on the La Graciosa thistle.

#### **4.4.5 San Luis Obispo Air Pollution Control District**

The County of San Luis Obispo APCD ("SLOAPCD") is the local air agency responsible for implementing federal and state air quality standards for activities at the Guadalupe oil field. For the Past Beach Projects SLOAPCD issued permits for the storage and stockpile of contaminated materials, thermal treatment devices, and large stationary engines. On October 13, 1999, SLOAPCD issued to Unocal Permit to Operate 598-1 for the Phase 1 remediation and abandonment activities identified in RWQCB CAO 98-38.

### **4.5 COASTAL ACT ISSUES**

#### **4.5.1 Environmentally Sensitive Habitat Areas and Marine Resources**

Coastal Act § 30230 states:

*Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.*

Coastal Act § 30231 states:

*The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining*

*natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*

Coastal Act § 30240(a) states:

*(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.*

Coastal Act § 30107.5 defines “environmentally sensitive area” to mean:

*...any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed and degraded by human activities and development.*

All 2,700 acres of the Guadalupe oil field are identified in the County of San Luis Obispo’s LCP as Environmentally Sensitive Habitat Area (“ESHA”). The habitat types found within the Commission’s permit jurisdiction are diverse and include sandy beach, foredunes, wetlands and transitional habitats, floodplain, river, estuary/lagoon, marsh ponds and woodland.

The EIR concludes that proposed excavation and abandonment activities will have significant, unavoidable adverse impacts to these habitat areas and the sensitive species they support, as described below.

### ***Habitat Types and Sensitive Species***

#### ***Sandy Beach***

The marine habitats at risk from the excavation activities proposed by the past and proposed Beach Projects are the upper sandy beach (the supratidal marine zone) and the mouth of the Santa Maria River, which is tidally influenced by marine waters. Sandy beach habitat is found seaward of the vegetation line.

Invertebrate species that inhabit sandy beaches (predominantly crustaceans and worms) are adapted to the wave action and shifting sands of the intertidal zone and are able to bury themselves quickly or deeply to avoid displacement or permanent burial. The invertebrates that are able to survive the extremes of this habitat attract numerous shorebirds that become most abundant during fall and winter.

The western snowy plover is federally listed as a threatened species and is a California Species of Special Concern (see **Table 2** below and Exhibits 11 and 12). Plovers forage at the upper limits of sandy beach habitat. Up to 130 individual snowy plovers have been observed during the

winter around the Santa Maria River mouth, and up to 40 have been recorded at the Guadalupe oil field beach sites.

California brown pelicans, California least terns (both federally and state listed as endangered), elegant terns (a California Species of Special Concern) and several species of gulls rest and preen upon the shoreline in large flocks and forage in the offshore waters. Along this stretch of the coastline, numbers of California brown pelicans are highest in July, and lowest in late winter and early spring. A sand spit that forms on the north or south side of the Santa Maria River mouth is habitually used by large flocks of brown pelicans, gulls and other shorebirds, including the long-billed curlew (a California Species of Special Concern). Because the location of the river mouth can vary dramatically from year to year, the size, location and configuration of the sand spit, foredunes and river mouth habitats used by sensitive species can change dramatically.

### *Foredunes*

Foredunes are the first vegetated terrestrial communities located above the extreme high water line. Due to the harsh coastal environment, only plants adapted to strong winds, salt spray and burial under moving sand can grow here. Low-growing plants with deep and/or spreading root systems are typical in the foredune habitat. There is often a distinct zonation of vegetation within the foredunes. Growing adjacent to the beach are low-growing, salt-tolerant species that are often called "pioneer" species and influence the initial formation of dune hummocks.

Foredune sites at the oil field are fairly isolated from human activity. Other than oil field personnel, most of the human activity on the site is from beach users such as surfers and fishermen. As such, much of the foredune habitat is not subject to frequent disturbance and is in overall good condition. The foredunes in the project area have large unvegetated areas with scattered low vegetated hummocks. This area has been historically disturbed by the movements of the Santa Maria River in addition to past oil field activities. Sea rocket, a naturalized, non-native species, is often the only plant found on these hummocks although beach bur and yellow sand verbena are occasionally seen.

Away from the immediate shore, as physical conditions become milder, established plants help hold sand in place and higher, more developed dune hummocks form that gradually transition to more stabilized backdunes and dune scrub. These higher, more vegetated foredunes support a variety of low-growing perennial species including the pioneer species noted above. Dune morning glory, beach evening primrose and sea fig are common components of the vegetation in the foredunes, sometimes forming dense mats, especially in areas that have undergone past disturbance such as around roads and pads in the southern half of the oil field. Beach grass is also present in a few localized areas.

Foredunes are the principal habitat of several sensitive plant species listed in **Table 2**. These include two state-listed threatened species (surf thistle and beach spectacle-pod), as well as dunedelion (a California Native Plant Society "watch" species). Several populations of surf-thistle and beach spectacle-pod have been identified at isolated locations on foredunes and open sand areas in the northwest portion of the oil field. Dunedelion is locally common throughout the foredune habitat.

As the distance from the harsh winds and salt spray adjacent to the shoreline increases, frequency of disturbance decreases and the foredunes become more vegetated and stabilized. Increased vegetative cover and roots hold sand in place and promote soil development by increasing the organic matter content of the substrate and its water- and nutrient-holding capacity. As a result, the more stabilized foredunes are able to support occasional subshrub or shrub species such as Blochman's leafy daisy (a California Native Plant Society List 1B species). These plants are often found on taller foredune hummocks and are common in the backdune habitats in the Guadalupe oil field.

The sparse vegetation within the foredune habitat offers relatively little cover for wildlife species. Common reptile species in this habitat type include the California horned lizard and silvery legless lizard, both California Species of Special Concern.

The foredunes support a few foraging birds, including the California horned lark, a California Species of Special Concern. In addition, both the western snowy plover and the California least tern nest within this habitat in the project area. The nest sites at Guadalupe range from the flat areas of foredunes to gravelly areas such as abandoned drilling pads or roads within the foredunes. A few nests may also occur farther inland in the less vegetated parts of dunes, although this is generally considered marginal habitat.

California least terns breed in the foredune habitat near the Santa Maria River. Several bird species, including the western snowy plover and the California brown pelican, rest and roost among the protective hillocks of the foredunes during extreme conditions.

#### ***Wetlands, Aquatic and Transitional Habitats***

Coastal Act § 30121 defines wetlands as:

*"...lands within the coastal zone which may be covered periodically or permanently with shallow water, including salt marshes, fresh- and brackish-water marshes, swamps, mudflats, and fens."*

Aquatic habitats are open or closed bodies of water that are generally adjacent to or included within wetlands, whereas transitional habitats span the boundary between wetland and upland habitats.

### *Santa Maria River Floodplain Habitats*

The floodplain of the Santa Maria River provides a dynamic mixture of marine, estuarine, riverine and palustrine wetland types, as well as estuarine and riverine aquatic habitats. Migration of the river channel within its present floodplain has increased the diversity of vegetation and wildlife habitats, as former segments of the river channel become cut off and undergo succession.

Several wildlife species use the wide variety of resources provided by the Santa Maria River and associated wetlands. Sensitive species expected to be regular breeders or residents are discussed below under the particular habitat type (*i.e.*, Estuary/Lagoon, Scirpus Marsh/Ponds) in which the species is most likely to occur. However, there are several sensitive species that have been observed in the project area but have not been observed there during their breeding seasons. These sensitive species include fulvous whistling duck, harlequin duck, long-billed curlew, and short-eared owl. Other California species of Special Concern that are expected to be present but whose sensitive rookeries or breeding colonies do not occur in the project area include double-crested cormorant, white-faced ibis, California gull, and elegant tern.

### *Estuary/Lagoon/River Habitats*

Estuary/lagoon/river habitats lie within the active channel of the river and are largely devoid of vegetation due to rapid water motion. Mats of floating green algae may develop during summer and fall when the berm closes the mouth of the river. Additional important sources of food chain support include planktonic algae, plant debris washed down the river by floods, and beached kelp and driftwood washed up the river mouth by high tides.

The river and estuary offer abundant resources to wildlife species. Due to the continuous flux of salt and freshwater within the estuary, species requiring and adapted to both conditions are present in the area. Deeper pools, not heavily influenced by saltwater, provide summer habitat for individuals of transient amphibian species such as the California red-legged frog (federally listed as threatened) and perhaps the western spadefoot toad (a California Species of Special Concern).

Extensive mudflats near the river mouth are used for foraging and resting by large flocks of wintering shorebirds. The abundant fish population attracts diving birds such as the California least tern and California brown pelican. The deeper water at the mouth of the river provides California brown pelicans with good fish populations for foraging, areas for bathing and quiet

places for resting and preening. The river mouth is adjacent to ocean waters, which provide additional foraging habitat. California least terns have historically nested near the river mouth and have increased in numbers in recent years. Post-breeding birds use the lagoon and nearshore waters for foraging and bathing. Western snowy plovers are regularly observed foraging on the shoreline and in the mudflats around the estuary. The river mouth is considered one of the principal western snowy plover wintering sites for the central coast of California. The estuary is also used as a resting and roosting spot for gulls, cormorants and pelicans, and as a stopover for large flocks of migratory birds during the spring and fall.

The species of fish inhabiting or seasonally using the estuary and river include the tidewater goby (federally listed as endangered and a California Species of Special Concern). Gobies appear to be more abundant in the northern end of the lagoon adjacent to the sheetpile wall than in the other areas of the lagoon.

Steelhead trout (federally listed as endangered) historically used the Santa Maria River as a migratory pathway to the Sisquoc and Cuyama rivers, although the latest recorded use was 1943. The native steelhead trout population in this river system is likely extinct. In particularly wet years, however, it is possible that several individual steelhead from other populations could enter the Santa Maria River.

#### *Scirpus Marsh/Ponds*

Near the Santa Maria River mouth, established along former reaches of the river channel, occurs a series of ponds with bordering marshes. The *Scirpus*-dominated marshes (which may include southwestern spiny rush and La Graciosa thistle) and ponds associated with the Santa Maria River floodplain provide valuable habitat for several species of amphibians, reptiles and birds. Southwestern pond turtles have been recorded in these deep pools. Two-striped garter snakes (a California Species of Special Concern) forage along the banks and California red-legged frogs breed in this habitat. Because these pools persist throughout the year, they provide valuable summer habitat for these amphibians and other wildlife species as well. Sensitive bird species in this area include Cooper's hawk, sharp-shinned hawk and northern harrier. This habitat could support nesting tricolored blackbirds, although this nomadic species is not currently known to breed in the project area.

Fish found in the pond immediately adjacent to the river (A Pond) on the north side of the river and connected to it during high water include the tidewater goby. Sampling in 1995 found the goby population to be substantially more abundant in the A Pond than in the lagoon. Two other ponds (B Pond and C Pond) to the north appear to have no regular connection to the river but are periodically connected to the A Pond. No listed or sensitive fish species have been reported for B or C Ponds.

### *Intermittently Flooded Marsh*

Around the margins of the river channels are flats with low-growing marsh vegetation that is essentially salt marsh at the mouth of the river, but becomes brackish or freshwater marsh progressing upstream. All these areas are intermittently flooded winter through spring by river overflows, and the vegetation may be periodically eliminated and undergo succession in the aftermath of heavy floods. Backwater flooding from high tides may also occur near the river mouth. La Graciosa thistle may occur at the margins of this habitat. Site B11 includes this habitat type.

During times of inundation this habitat would provide resources similar to the estuary and lagoon habitats and would support similar wildlife species. The saltmarsh vegetation along the margins of the river and the exposed regions of the marsh attract shorebirds including the long-billed curlew. The less saline conditions upstream provide breeding habitat to amphibian species such as the California red-legged frog.

### *Willow Scrub/Woodland*

Extensive riparian scrub/woodland vegetation occurs along the margins of the Santa Maria River floodplain upstream of tidal influence. The vegetation is relatively "scrubby" due to frequent disturbance by flooding and river-channel migration, cattle grazing and poor growing conditions associated with the marine influences near the mouth of the river. Understory and bordering vegetation consists of intermittently flooded marsh and meadows. Site D14 includes this habitat type.

Sensitive avian species potentially using this habitat include the yellow warbler, short-eared owl, Cooper's hawk, sharp-shinned hawk, and potentially the white-tailed kite, long-eared owl, golden eagle and merlin. The willow habitat also provides valuable habitat for birds migrating through the area. In addition, due to the proximity to the river and the protective cover of the willows, several larger mammal species would use this habitat as a thoroughfare between the backdunes and ocean.

The willow habitat on the project site is neither dense nor extensive. It may support some avian species that require large stands of dense willows (*e.g.*, the yellow-breasted chat, a California Species of Special Concern). However, the willow habitat in the project area is not considered sufficient to support southwestern willow flycatcher or least Bell's vireo, both federally and state listed as endangered, except as very brief transients.

These ESHA habitats and the sensitive species they support are summarized in Table 2 and mapped in Exhibit 11. Detailed sensitive species' descriptions are in Exhibit 12.

**Table 2. Sensitive Species Found Within the Project Area**

<b>FEDERAL- AND STATE-LISTED SPECIES</b>			
Common Name	Common ESHA Type	Listing Status	CCC Sites
<b>Plants</b>			
La Graciosa thistle	River floodplain <i>Scirpus</i> marsh/pond Intermittently flooded marsh Wetlands	PE/T/CNPS 1B	A2A North (Pond B), A Road, B11, D14
Surf thistle <i>Cirsium rhotophilum</i>	Foredunes	---/T/CNPS 1B	5X (A Road widening)
Beach spectacle-pod <i>Dithyrea maritima</i>	Foredunes	---/T/CNPS 1B	TB4, A5A, 5X (A Road widening)
<b>Wildlife</b>			
California red-legged frog <i>Rana aurora draytonii</i>	Estuary/lagoon/river <i>Scirpus</i> marsh/pond Intermittently flooded marsh	T/CSC	5X, A2A North (Pond B wetland), A Road, A1/2X (2X Sump), B11, D14, TB4
Tidewater goby <i>Eucyclogobius newberryi</i>	Estuary/lagoon/river <i>Scirpus</i> marsh/pond	E/CSC	5X, A2A North (Pond B), LeRoy 3, Santa Maria River estuary and lagoon (potential)
Steelhead trout <i>Oncorhynchus mykiss</i>	Estuary/lagoon/river	E/CSC	5X, LeRoy 3, Lower Santa Maria River (potential)
California brown pelican <i>Pelecanus occidentalis californicus</i>	Sandy beach Foredunes Estuary/lagoon/river	E/E	5X, LeRoy 6, Santa Maria River estuary and lagoon; forage in ocean just beyond breakers.
California least tern <i>Sterna antillarum browni</i>	Sandy beach Foredunes Estuary/lagoon/river	E/E	5X, LeRoy 3, LeRoy 6, A2A North, A Road, A1/2X (2X Sump), Santa Maria River mouth
Western snowy plover <i>Charadrius alexandrinus</i>	Sandy beach Foredunes Estuary/lagoon/river	T/CSC	5 X, A2A North, A Road, A5A, LeRoy 3, LeRoy 6, A1/2 X (2X Sump), TB4, Santa Maria River mouth
<b>Notes to Table 2:</b>			
<b>Federal Status (determined by U.S. Fish and Wildlife Service):</b>			
E Endangered. In danger of extinction throughout all or a significant portion of its range.			
T Threatened. Likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.			
PE Proposed for listing as Endangered.			
C Candidate for listing as Endangered or Threatened.			
<b>State Status (determined by the California Department of Fish and Game):</b>			
E State listed as Endangered			
T State listed as Threatened			
CSC California Species of Special Concern			
FP Fully Protected or "Special Animal"			
<b>California Native Plant Society (CNPS) List:</b>			
1B Plants considered rare or endangered in California and elsewhere			
4 Plants of limited distribution – a watch list			

OTHER SENSITIVE SPECIES			
Common Name	Common Habitat	Regulatory Status	Conservation
<b>Plants</b>			
Blochman's leafy daisy	Foredunes	---/---/CNPS 1B	5X, A5A, D14, B11, A2A North, TB4
Suffrutescent wallflower <i>Erysimum insulare suffrutescens</i>	Dune scrub River floodplain	---/---/CNPS 4	D14
Southwestern spiny rush <i>Juncus acutus leopoldii</i>	Estuary/lagoon/river Scirpus marsh/pond Intermittently flooded marsh	---/---/CNPS 4	Along Santa Maria River
Dunedelion <i>Malacothrix incana</i>	Foredunes	---/---/CNPS 4	5X, A5A, A2A North, TB4
<b>Wildlife</b>			
Western spadefoot toad <i>Scaphiopus hammondi</i>	Estuary/lagoon/river	---/CSC	TB4, Santa Maria River
Southwestern pond turtle <i>Clemmys marmorata pallida</i>	Scirpus marsh/pond	---/CSC	A2A North, B11, D14
California horned lizard <i>Phrynosoma coronatum frontale</i>	Foredunes	---/CSC	5X, A2A North
Silvery legless lizard <i>Anniella pulchra pulchra</i>	Foredunes	---/CSC	5X
Two-striped garter snake <i>Thamnophis hammondi</i>	Scirpus marsh/pond	---/CSC	A2A North (Pond B), B11, D14
Tricolored blackbird <i>Agelaius tricolor</i>	Scirpus marsh/pond	---/CSC	A2A North (Pond B), B11
Fulvous whistling duck <i>Dendrocygna bicolor</i>	Scirpus marsh/pond	---/CSC	Potential A2A North (Pond B), B11
Harlequin duck <i>Histrionicus histrionicus</i>	Scirpus marsh/pond	---/CSC	Potential A2A North (Pond B), B11
Double-crested cormorant <i>Phalacrocorax auritus</i>	Estuary/lagoon/river	---/CSC	Potential Santa Maria River
White-faced ibis <i>Plegadis chihi</i>	River floodplain	---/CSC	Potential Santa Maria River
White-tailed kite <i>Elanus leucurus</i>	Willow scrub/woodland	---/FP	D14
Short-eared owl <i>Asio flammeus</i>	River floodplain	---/CSC	D14, Santa Maria River

OTHER SENSITIVE SPECIES			
Common Name	Common ESHA Type	Listing Status	CCC Sites
Long-eared owl <i>Asio otus</i>	Willow scrub/woodland	---/CSC	D14
Northern harrier <i>Circus cyaneus</i>	<i>Scirpus</i> marsh/pond	---/CSC	Potential all sites
Cooper's hawk <i>Accipiter cooperii</i>	<i>Scirpus</i> marsh/pond Willow scrib/woodland	---/CSC	A2A North, B11, D14
Sharp-shinned hawk <i>Accipiter striatus</i>	<i>Scirpus</i> marsh/pond Willow scrub/woodland	---/CSC	A2A North, B11, D14
Golden eagle <i>Aquila chrysaetos</i>	Willow scrub/woodland	---/CSC	Potential all sites
Merlin <i>Falco columbarius</i>	Willow scrub/woodland	---/CSC	Potential all sites
Long-billed curlew <i>Numerius americanus</i>	Sandy beach Estuary/lagoon/river Intermittently flooded marsh	---/CSC	5X, Santa Maria River
California gull <i>Larus californicus</i>	River floodplain	---/CSC	Santa Maria River
Elegant tern <i>Sterna elegans</i>	Sandy beach River floodplain	---/CSC	5X, Santa Maria River mouth.
California horned lark <i>Eremophila alpestris actia</i>	Foredunes	---/CSC	5X, roads
Yellow warbler <i>Dendroica petechia</i>	Willow scrub/woodland	---/CSC	D14
Yellow-breasted chat <i>Icteria virens</i>	Willow scrub/woodland	---/CSC	D14

## Past Beach Project Impacts

### *5X, LeRoy 2 and A2A Area Excavations*

Most of the 1994 5X excavation occurred on the sandy beach. The presence of floating diluent inside the large 5X cofferdam, as well as other construction-related activities, posed a potential threat to various bird species that were observed flying over and periodically seen floating and diving into the open water habitat within the cofferdam. Numerous bird tracks were frequently observed in close proximity to, but outside, the cofferdam. Unocal used several methods of

hazing to scare birds away from the area, including tying reflecting mylar strips to ropes spanning the pit, positioning artificial predators around the site, and firing noise-producing guns throughout the day.

Although most of the remedial activities were located in the sandy beach habitat, construction activities also disturbed foredune habitat (estimated to be less than four acres) resulting in a loss of habitat for sensitive plant and wildlife species. The foredune habitat at the 5X site and access road was valuable California snowy plover breeding and resting habitat. Unocal has not yet revegetated this area because it is going to be disturbed again during excavation of the remaining 5X plume. The establishment of suitable vegetation is required for this area to provide resources similar to those available prior to disturbance.

The EIR determined that the construction-related support structures, such as fences, signs, lights and viewing towers temporarily impacted the site. Impacts to wave runup, beach erosion, and sand deposition patterns also occurred due to the construction of the cofferdam within the excavation area. The removal of the cofferdam wall at the end of construction allowed the natural beach processes to resume, making this a short-term impact. The construction of the boardwalk for pedestrian access across the foredunes helped to mitigate dune erosion. Shortages of clean and thermally treated sand prevented complete backfilling of the excavation. More sand was excavated than was put back, so there was a net loss of sandy beach habitat from the littoral zone. The EIR concluded this was a short-term adverse impact since later storm deposition of sand returned the beach to its natural winter profile once the cofferdam was removed.

Because 1994 5X excavation operations occurred during winter, impacts to tidewater goby from the vibrations used to set the HDPE wall panels, or by the additional sand material washing from the beach stockpile areas and into the littoral areas, were not observed.

The LeRoy 2 sump site was located in foredune habitat north of the Santa Maria River and south of the 5X site. This area had undergone previous disturbance from the migration of the Santa Maria River as well as oil field activities. Prior to the excavation and cleanup, the sump area and access route had been covered by wind-blown sand and naturally revegetated, predominantly by pioneer dune species such as sea rocket, beach bur and yellow sand verbena on low hummocks, with areas of open sand in between. The primary wildlife species of concern were the tidewater gobies potentially using the Santa Maria River lagoon areas and the California snowy plovers using the sandy beach and foredune habitats for resting and breeding.

Emergency excavation of the sump and removal of sand along the access route resulted in the removal or disturbance of approximately one-half acre of foredune vegetation, including a cluster of dunedelion (a sensitive plant species). Since the sump excavation was carried out during the winter months, snowy plovers were not impacted.

The A2A South plume and sumps were located in foredune habitat in the southwest corner of the oil field, just inland of the 5X site and near wetland areas. The potential to impact foredune species (particularly California least terns and western snowy plovers) was mitigated to a certain extent by the timing of the project, which avoided the breeding and nesting seasons for these species. California red-legged frogs, in contrast, were present during the winter season in which the activities occurred. Approximately five of the geobags placed along the north bank of the Santa Maria River split, spilling the sand in the bags into the river.

The Commission is requiring in **Special Condition 22** that for each area disturbed as a result of remediation activities authorized by emergency permits E-94-12-G, E-95-18-G, E-97-03-G and E-98-09-G, Unocal, submit to the Executive Director for approval a site-specific Habitat Restoration, Revegetation and Monitoring Plan as described in **Special Condition 9** within 60 days of issuance of this permit. These site-specific plans may exclude those pre-disturbance requirements that cannot be complied with because of the emergency nature of the remediation activities.

**Special Condition 23** requires Unocal to submit to the Executive Director within 30 days of issuance of this permit an Interim Site Stabilization Plan for all foredune and dune areas adversely affected by remediation activities carried out under the authority of the four emergency permits. The plan is to include: (a) methods for substrate stabilization and erosion control; (b) methods for controlling the influx and establishment of undesirable plant species; and (c) a monitoring program. This Interim Site Stabilization Plan is to be implemented until the site-specific Habitat Restoration, Revegetation and Monitoring Plan, as required by **Special Condition 22**, is approved by the Executive Director and implemented by Unocal.

### ***5X Sheetpile Wall***

Installation of the 5X sheetpile wall also impacted ESHA and sensitive species. Construction noise and increased human activity during the installation of the sheetpile wall may have deterred wildlife from inhabiting the beach in the area of activity. However, timing of construction activities (November through February) avoided the critical breeding and nesting seasons for western snowy plovers and California least terns, and there was easily accessible sandy beach habitat in the area of the Santa Maria river for foraging and other wildlife use. Consequently, the construction of the sheetpile wall did not significantly impact sensitive wildlife species common in the sandy beach habitats. Lights and construction noises at night created disturbances to wildlife using the sandy beach habitat, possibly affecting snowy plover foraging.

Installation of the 5X sheetpile wall directly impacted an estimated three acres of foredune habitat that was in the process of recovering from the 1994 5X plume excavation and HDPE wall installation disturbance, and one acre of previously undisturbed, established foredunes.

Approximately 2,800 individuals or groups of dunedelion in low dune hummocks and approximately 25 individual plants of Blochman's leafy daisy within one-half acre of the construction footprint were removed during installation of the southeast section of the Phase 2 sheetpile wall. Loss of vegetation occurred from grading and excavation, vehicles and human access (crushing of plants). In addition, since the excavated dunes in this area were fairly high, there were indirect impacts associated with erosion of newly exposed sand from wind, rain, or gravity.

Also, wherever the Santa Maria River flows along the beach next to the sheetpile wall, the southeast section of the wall may cause an eddying effect with consequent erosion and loss of foredune habitat.

The Commission is thus requiring in **Special Condition 41** that the 5X sheetpile wall be removed at the earliest opportunity following excavation of the 5X plume. Removal of the sheetpile wall will cause impacts to the active beach due to use of heavy equipment and noise. **Special Condition 41** further requires that if the river or lagoon is present in front of the existing 5X sheetpile wall at the time of its removal, Unocal will schedule removal for the period November through January to avoid tidewater goby nesting. This will also avoid the breeding and nesting seasons for California least terns and western snowy plovers. Unocal must also contour the land on the west side of the site to minimize the probability of a cave-in into the lagoon or river after the sheetpile and HDPE walls are removed.

### ***Proposed Beach Project Impacts***

#### ***Plume, Sump and Oil Layer Excavations***

The EIR identifies that the proposed Beach Projects will create significant short-term disturbance and potentially unmitigable long-term impacts to the sensitive habitats and species of the Guadalupe oil field. Several sites within the project area include more than one ESHA habitat type and/or sensitive species. Some federally or state-listed species (western snowy plover, California least tern, California red-legged frog, La Graciosa thistle) are particularly vulnerable because they have critical habitat within or in close proximity to excavation sites that will be heavily disturbed. **Special Conditions 13-15**, as detailed below, are specifically directed at minimizing or avoiding impact to these species.

#### ***Site-Specific Impacts***

There will be potential disturbance to California brown pelicans using the sandy beach or foredune habitat at the 5X and LeRoy 3 sites for resting. Western snowy plovers breeding or foraging at 5X, A2A, A5A sump, LeRoy 3 and LeRoy 6 could be disturbed, as well as California least terns foraging in the 5X, A2A, A5A Sump and LeRoy 3 sites. Loss of individual surf

thistle, Blochman's leafy daisy and/or dunedelion may also occur as a result of foredune habitat disturbance at the 5X, A5A and LeRoy 6 sites. These disturbances may cause changes of breeding or foraging behavior and affect breeding success of local tern and plover populations, cause injury or death of individual sensitive plants and birds, or lead to loss of sandy beach and foredune habitat.

The proximity of the 5X project to the marsh ponds that provide breeding habitat for California red-legged frogs may result in injury or mortality to the frogs (the apex of the 5X sheetpile is within 200 feet of the A2A Pond B wetland area). The A Road widening and turnout construction occurs in foredune areas east of an existing road bordering the 5X East, A2A, TB4 and A5A sites; these road widening activities potentially impact the same types of habitats and sensitive species that would also be encountered during excavations at these four sites. In addition, the TB4 sump area is in close proximity to two wetlands and existing beach spectacle-pod plants. It provides potential habitat for western spadefoot toad. The B11 Sump encroaches into the Pond B wetland and will result in disturbance to the wetland. Siltation and water in the excavation could impact the wetland. There is a high likelihood that California red-legged frogs, two-striped garter snakes and/or southwestern pond turtles will be present in and around the adjacent pond. La Graciosa thistle is present in wetland areas near the B11 sump. Tricolored blackbird, fulvous whistling duck, harlequin duck, Cooper's hawk, and sharp-shinned hawk are also potentially present and impacted during work at B11. La Graciosa thistles are also within the D14 construction footprint, and a California red-legged frog was recently observed at D14. D14, as part of the Santa Maria River floodplain, is bordered by willow scrub/woodland habitat, which provides potential foraging and resting habitat for the California horned lark, yellow warbler, yellow-breasted chat, white-tailed kite, sharp-shinned hawk, Cooper's hawk, short-eared owl, and long-eared owl.

Excavation activities may result in the loss of individual tidewater gobies and/or their breeding habitat. Removal of the sheetpile wall at the west side of the 5X site and excavation of LeRoy 3 and 5X access road oil layers could affect tidewater gobies and their habitat through vibration and collapse of burrows or through filling of the habitat. If migrating steelhead trout are present at 5X due to changes in flow of the Santa Maria River, they could be affected through interference with movement by removal of the sheetpile wall at the west side of the 5X site.

Partial or full failure of site restoration efforts will result in long-term loss of critical habitat for listed and other sensitive species. Several of these plant and wildlife species have experienced severe limitations to population range and numbers, and use the Guadalupe oil field as critical remaining habitat.

### *Identification of ESHA Habitats and Species*

To assess the potential ESHA habitats and sensitive species that will be disturbed, injured, removed or eliminated by remediation and abandonment activities, the Coastal Commission is requiring in **Special Condition 9** that prior to ground disturbance at each project site, Unocal submit for approval and written sign-off by the Executive Director a site-specific Habitat Restoration, Revegetation and Monitoring Plan. Each plan is to include: (a) a complete pre-disturbance biological survey; (b) geographic limits of the disturbance and geographic boundary of restoration and revegetation activities, including other known disturbances (*e.g.*, grazing); (c) construction monitoring measures (pre-construction topographic surveys, soil compaction, grading and contouring specifications, protocols to quantitatively determine whether physical restoration has resulted in a physical habitat built-to-plan); (d) dune stabilization measures; (e) description of the habitat and revegetation goals; and (f) performance monitoring for up to 10 years following the end of bioremediation activities.

The EIR identifies that the excavation of certain plumes and sumps will impact wetlands at sites A2A North (Pond B wetland), A Road, B11, D14 and TB4.

The Commission is therefore requiring in **Special Condition 19** that wherever ground-disturbing activities occur, a preliminary wetland assessment shall be made by a qualified wetland delineator in cooperation with the independent Onsite Environmental Coordinator ("OEC"). If, in the opinion of the OEC, there is evidence of frequent soil inundation or saturation, hydric soils, or a prevalence of hydrophytic vegetation, a formal wetland delineation shall be conducted by a qualified delineator approved by the Executive Director and the County. The delineation shall be conducted in cooperation with the independent OEC and will use the criteria accepted by the California Department of Fish and Game and the Coastal Commission. If wetlands are present in areas of potential impact, their boundaries shall be accurately determined and mapped. A report will be submitted to the Executive Director, the County Department of Planning and Building and other appropriate agencies prior to the initiation of site characterization, oil spill remediation, oil field abandonment, infrastructure installation, or infrastructure removal activities. Unocal shall not commence any ground-disturbing activity at any area of potential impact until receiving written sign-off on the report for that area from the Executive Director.

### *Habitat and Species Avoidance Measures*

The Commission is imposing a number of conditions of approval that require Unocal to take all feasible steps to avoid or minimize impacts to sensitive species and their habitats.

**Special Condition 10** requires Unocal in part to: (a) limit the duration of time each site is disturbed and the total area of disturbance; (b) maintain a current database of listed and other sensitive species, including seasonal closure information; (c) mark locations of sensitive species;

(d) confine off-road vehicular use, including ATVs, and not commence that use for each site until receiving written sign-off from the Executive Director; (e) periodically survey access corridors; (f) develop an exclusion plan prior to disturbance at each site, and not commence ground-disturbing activity at any site until receiving written sign-off on the exclusion plan for that site; (g) complete oil field abandonment activities prior to or concurrent with remediation; (h) limit traffic and lighting; (i) where access to sites must be through native habitats, a qualified biologist must determine the most suitable access route and mark it, and Unocal shall not enter any native habitats until receiving written-sign-off on that access route from the Executive Director; (j) conduct training of field personnel; and (k) enable independent Onsite Environmental Coordinator to be present at any and all times ground-disturbing activities are occurring.

**Special Condition 11** requires, in part, that if sensitive species are found at any site, Unocal will: (a) limit construction areas, access routes and construction timing to avoid impacts to species; (b) develop and implement a salvage, propagation and replanting program for impacted sensitive plant species; (c) develop and implement a capture and relocation program for impacted sensitive animal species; and (d) develop separate mitigation plans that compensate for direct impacts (mortality, decreased fitness, loss of habitat) and temporal losses to sensitive species.

**Special Condition 12** requires that all project activities on or near the beach and foredunes be scheduled to avoid western snowy plover and California least tern habitat during their breeding seasons (March 1 through September 15) to the maximum extent feasible as determined by the USFWS.

**Special Condition 13** requires that an independent qualified biologist with western snowy plover and California least tern experience, approved by the Executive Director, the County, and other resource agencies, visit the site throughout the construction, site characterization, oil spill remediation, oil field abandonment, infrastructure installation and infrastructure removal phases. The biologist is to ensure that all practicable measures are being employed to avoid incidental disturbance of sensitive species and sensitive species habitats.

**Special Condition 14** in part requires that a qualified biologist approved by the Executive Director, other resource agencies and the County monitor western snowy plover and California least tern populations to determine breeding and fledgling success during project activities.

**Special Condition 15** requires, in part, that at sites where California red-legged frog (CRLF) habitat is present: (a) no site characterization, excavation, infrastructure removal or remediation activities shall occur within 200 feet of CRLF breeding habitat from January 1 to September 15, or as determined by the USFWS; (b) pre-project CRLF surveys shall be conducted by an independent qualified biologist under the direction of the OEC and throughout the proposed area of disturbance and within suitable habitat up to 500 feet away from the remediation area; (c)

project sites within 500 feet of CRLF habitat will be fenced; (d) qualified biologists approved by the USFWS will capture and relocate CRLFs to suitable, pre-determined sites outside the construction zone; (e) all non-native predators to CRLFs shall be destroyed; and (f) nighttime surveys for CRLF shall be conducted at least twice per week or as directed by USFWS for the duration of construction activities in the CRLF vicinity.

**Special Condition 19** requires Unocal to make every reasonable effort to avoid impacts to wetlands. If wetlands are present in areas of potential impact, their boundaries shall be accurately determined and mapped and a report submitted to the Executive Director, the County and other appropriate resource agencies prior to the initiation of site characterization, oil spill remediation, oil field abandonment, infrastructure installation, or infrastructure removal activities.

To minimize the potential "take" of California red-legged frogs, **Special Condition 21** requires during November-March of each year, Unocal to limit the use of the "loop" road (which straddles Marsh Ponds A and B) to foot traffic and emergency vehicles only, unless otherwise authorized by the USFWS. From March-September, traffic is limited to emergency vehicles only, unless otherwise authorized by the USFWS.

To minimize the possibility of birds entering the open diluent ponds in the excavation pits, **Special Condition 27** requires Unocal to submit to the Executive Director and written sign-off for approval a revised Oil Spill Contingency Plan that includes, in part, a Wildlife Exclusion Plan.

**Special Condition 32** further requires the Executive Director to approve, prior to sheetpile installation at each excavation site, sheetpile locations to ensure that site disturbance is minimized.

#### *Restoration of ESHA Habitats and Species*

Notwithstanding Unocal's efforts to minimize adverse impacts to the project area's wildlife and sensitive habitats, as required by the above-referenced conditions of approval, remediation and abandonment activities will cause significant, adverse unavoidable effects. The Commission is thus requiring Unocal to implement a comprehensive revegetation and restoration effort at each disturbed site.

**Special Condition 9** requires, prior to ground disturbance at each project site, that Unocal submit for Executive Director approval a written sign-off a site-specific **Habitat Restoration, Revegetation and Monitoring Plan**. Included in each plan shall be: (a) a pre-disturbance biological survey; (b) results of representative soil borings from wetlands where ever delineated wetlands are present; (c) geographic limits of disturbance and geographic boundary of restoration and revegetation activities; (d) summary of other known disturbances; (e) specifications for soil

compaction, grading, contouring, backfill and sheetpile removal, and protocols to determine whether physical habitat has been built-to-plan; (f) dune stabilization measures; (g) description of the habitat and revegetation goals; (h) erosion control and ecological performance criteria; and (i) funding of an independent biological performance monitor.

**Special Condition 14** requires in part that a qualified biologist approved by the Executive Director, resource agencies and the County monitor western snowy plover and California least tern populations to determine breeding and fledgling success after project activities.

**Special Condition 16** requires that, for areas in which vegetation and soil are to be removed, Unocal shall salvage and replace topsoil that is reasonably weed-free, and in consultation with the resource agencies and revegetation specialists, and for approval and written sign-off by the Executive Director, develop a plan for topsoil removal that will maximize all feasible salvage of the seed bank.

**Special Condition 18** requires Unocal to provide post-construction aerial photographs for each site 3 years following the completion of revegetation. A report that includes both pre-construction and post-construction aerial photographs and a map with overlays containing vegetation polygons from the two aerial photographs for each site shall be provided to the Executive Director and the County.

**Special Condition 20** requires that if any project activities could result in unavoidable impacts to wetlands, Unocal shall submit a **Wetland Restoration and Mitigation Plan** in the form of an amendment to this permit. The plan must be approved by the Coastal Commission prior to initiation of project activities that could result in unavoidable impacts to wetlands. This plan shall include, in part, the following elements: (a) the ratio of the area of created or restored wetlands to the area of impacted wetlands; (b) post-treatment ground elevations that will provide a range of microhabitats that can accommodate the requirements of sensitive plant species; (c) a plan for monitoring dissolved-phase diluent to ensure detection of exposures approaching potential damage thresholds; and (d) inclusion of the restored or created wetland and adjacent upland and transitional habitats in the **Habitat Restoration, Revegetation and Monitoring Plan** described in **Special Condition 9**. Unocal proposes to use the site-wide ecological risk assessment to help determine if wetland restoration is practical for the B11 and D14 areas.

**Special Condition 37** requires sediment grain-size analysis of the remove and replacement material for each excavation site, recorded and submitted to the Executive Director for review and approval. No filling of an excavated area shall occur until the grain-size compatibility between the removed sediment and the replacement sediment is approved.

**Special Condition 41** requires that the 5X sheetpile wall be removed at the earliest opportunity following excavation of the 5X plume, and **Special Condition 42** requires the removal of all geobags at the earliest opportunity following excavation of all plumes and sumps.

#### *Other Project-Related Activities*

Pipeline removal will require access along the length of the Category B and C lines in order to install drainage taps and make cuts. This has the potential to disturb vegetated surfaces and sensitive species. Unocal proposes, wherever possible, to establish access corridors in already disturbed areas to minimize impact on the habitat. Unocal also proposes to overlap disturbance corridors where multiple, parallel pipelines occur.

Unocal anticipates that placement of new power poles and concrete transformer pads will be in bare sand areas or areas already impacted by 5X emergency permit actions or existing infrastructure placements. Additional impacts to surface vegetation are expected to be minimal.

A contingency plan to use 60-100 geobags will be activated if the Santa Maria River appears to pose a threat to the 5X site. If any geobag falls into the river, it has the potential to smother tidewater gobies. **Special Condition 42** requires Unocal to completely remove all geobags at the earliest opportunity following excavation of all plumes and sumps authorized by this permit.

To conduct these project-related activities, Unocal must implement all relevant habitat and sensitive species avoidance, minimization and restoration conditions of approval, as discussed in detail above.

#### *Offer to Dedicate Shoreline Habitat Protection/Open Space Easement*

In addition to the aforementioned habitat and sensitive species avoidance, minimization and restoration conditions of approval, Unocal has agreed to re-offer to dedicated a habitat protection easement.

As part of a 1980 coastal development permit (CDP 40-24) to expand oil production operations at Guadalupe, the Coastal Commission required Unocal to dedicate two easements over approximately 300 acres of sand dune habitat between the Santa Maria River and the Mobil Coast Preserve to the north. The first easement is for public access and would occupy a band of 80 acres between the mean high tide line and the area that was once the first row of oil wells (The public access easement is discussed in Section 4.5.6 of this report). The second easement is for habitat protection and preservation of open space that would occupy 300 acres, including the north-to-south public access strip along the beach.

On June 11, 1980, Unocal recorded Offer to Dedicate ("OTD") 23795 for an easement providing habitat protection/open space over approximately 300 acres of shoreline dune habitat (Exhibit 15). A portion of the 300 acres will be disturbed as a result of proposed remediation operations. The OTD is irrevocable for a period of 21 years running from the date of recordation. Although the Coastal Conservancy has expressed interest in accepting the grant of easement, it and other potential recipients have not done so due to the petroleum contamination at the site. The OTD is to expire June 11, 2001.

The Commission is concerned that the OTD may expire before any party accepts them. Unocal has agreed to re-offer for dedication OTD 23795 before the current OTD expires. **Special Condition 43** requires that the OTD be effective for at least 25 years after the RWQCB issues a "closure" letter<sup>9</sup> for the site. In addition, Unocal must issue a fully executed Indemnity Agreement in a form and content as set forth in Exhibit 16 to any entity approved by the Executive Director to accept the existing or new replacement OTD. The Indemnity Agreement shall indemnify the party accepting the OTD from and against any and all liability, loss, costs, damages, claims, liens and expenses which directly or indirectly arise out of or are in any way associated with any past, present and future operations or activities conducted at the Guadalupe oil field by Unocal or any person acting as Unocal's representative or contractor.

#### *Site-wide Easement Required by County Coastal Permit*

In addition, to mitigate 15 significant unavoidable "Class I" impacts (as identified in the EIR), the County is requiring in its coastal permit for the overall Phase I cleanup and abandonment project (Exhibit F, Condition 110) that if Unocal acquires ownership of the oil field (Unocal is currently trying to purchase the oil field from the Leroy Trusts), it shall irrevocably offer to dedicate to a public agency or private non-profit association a site-wide open space, habitat protection, and public access easement. The purpose of the site-wide easement is for visual resource protection, habitat protection, and managed public access to the Guadalupe dunes and shoreline. The easement is to be located over the entire oil field, which is approximately 2,700 acres. The offer is to provide that no development, except for habitat restoration, remediation activities, abandonment activities and other support facilities for habitat restoration and managed public access, shall occur within the easement area.

In the alternative, Unocal may grant fee title to the entire oil field to a public agency or private non-profit (approved by the Executive Director and the County Planning Director) for the purposes described above.

Unocal may not succeed in acquiring ownership of the oil field, however. In this event, Unocal must acquire or cause the acquisition of irrevocable protective easements over a combination of

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<sup>9</sup> A "closure letter" is issued to the responsible party by the RWQCB after the RWQCB has determined that the site is "clean" and no further remediation work or monitoring is needed.

foredune, backdune, and/or wetland habitats in the Guadalupe-Nipomo Dunes Complex that are functional biological equivalents of the oil field site in its natural condition.

If Unocal demonstrates to the satisfaction of the County Board of Supervisors and the Coastal Commission that implementation of one of these three options is infeasible, Unocal shall pay to the County by June 30, 2001 a mitigation fee in an amount equal to the monetary value of such open space, habitat protection, and managed public access easement. If the value of such easement is not agreed upon by the Executive Director, County Planning Director and Unocal, then it shall be appraised by an appraiser chosen by the San Luis Obispo Superior Court. The funds are to be used by the County within 10 years for the purchase and/or habitat restoration of property in the Guadalupe-Nipomo Dunes Complex.

### ***Conclusion***

The project, as strictly conditioned, includes all feasible measures to minimize impacts to environmentally sensitive habitats and species. Nevertheless, the extensive nature of the excavations will cause disturbance and/or outright elimination of habitat, and pose the risk of injury or mortality to sensitive species. In addition to the significant short-term disturbance and potentially unmitigable long-term impacts created by the proposed excavations, there is no certainty that restoration efforts, particularly in exceedingly sensitive wetland habitats, will succeed.

The Commission therefore finds the project inconsistent with Coastal Act §§ 30230, 30231 and 30240(a) which require that marine resources, environmentally sensitive habitat areas and species of special biological significance be protected. Nevertheless, the project can be found consistent with the Coastal Act under the "conflict resolution" section of the Coastal Act for the reasons discussed in Section 4.5.10 of this report.

#### **4.5.2 Water Quality**

Coastal Act § 30230 states in part:

*Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters....*

Coastal Act § 30231 states:

*The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through,*

*among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*

### **Potential Water Quality Impacts**

CAO 98-38, issued by the Central Coast Regional Water Quality Control Board ("RWQCB") in April 1998, directs Unocal to remove petroleum hydrocarbon contamination from soil and ground water at the oil field (*i.e.*, the Phase 1 cleanup projects). However, the EIR identifies that the cleanup project itself could adversely affect surface and ground water quality at the oil field site.

The Central Coast Water Quality Control Plan (1994) requires that: (a) surface and ground waters be maintained free of toxic substances in concentrations toxic to human, plant, animal, or aquatic life; (b) surface and ground waters not contain taste or odor-producing substances that adversely impact beneficial uses of water or create a nuisance; (c) surface water not contain suspended material, sediment, or settleable material in concentrations that cause nuisance or adversely impact the beneficial uses of water; and (d) surface waters be free of turbidity that causes a nuisance or adversely impacts the beneficial uses of ground water — turbidity is not to exceed 20% of natural background levels or impacts will be considered significant.

The EIR states that conducting cleanup activities could increase turbidity in surface waters, or release sediment, suspended material, or settleable material into surface waters, thereby reducing water quality. Specific activities that could increase turbidity include grading, installation and removal of sheetpile, excavation activities, backfilling and operation of equipment near the water's edge. Project activities may also result in inadvertent spills of contaminated extraction water, petroleum products, motor fuels, lubricants, coolants, hydraulic fluids, etc. into the dunes, beach, or river that could directly impact water quality. A spill could re-contaminate a remediated area or affect previously uncontaminated areas. These spills, although relatively small, are common at construction sites.

The Coastal Commission is therefore imposing several conditions that address surface water quality. **Special Condition 24** requires Unocal to obtain a National Pollutant Discharge Elimination System ("NPDES") Construction Storm Water Activity Permit from the RWQCB. The permit's pollution prevention plan must specify best management practices ("BMP") to reduce erosion of disturbed soils within and adjacent to construction and staging areas.

**Special Condition 8** requires Unocal, prior to ground disturbance at each project site, to submit for Executive Director approval soil stabilization and erosion control procedures. Erosion control procedures are to include temporary soil stabilization methods to prevent the loss or movement of soil from clean or contaminated soil stockpiles.

**Special Condition 26** requires that equipment and materials, particularly materials that can cause turbidity and sedimentation, be stored inside bermed areas where surface runoff can be controlled and kept away from surface water.

**Special Condition 25** further requires Unocal to weekly monitor surface water bodies for increased water turbidity. If there is a visible turbidity plume emanating from the construction site, or if there is a measurable relative increase in turbidity of 20 percent or more near the construction site, activities will be halted until additional remedial actions are approved by the Executive Director.

Unocal's project-specific oil spill response plan states that all equipment maintenance, including refueling and lubrication, occur at designated sites and at least 100 feet from the nearest water resource. There will be no vehicle refueling on the beach. Washing and cleaning of construction and remedial equipment will occur where wastewater and materials can be contained for subsequent removal. Secondary containment for parked construction equipment and fuel storage vessels is required to contain any possible leaking products, and proper containment techniques are to be used when cutting or draining pipelines. All purge water and waste oil will be disposed of at a NPDES-permitted facility. All storage vessels used for temporary containment of contaminated ground water or recovered product are to have an adequate containment structure in place so that potentially spilled materials do no impact adjacent waters.

A failure of a sheetpile wall could cause contaminated ground water or separate-phase diluent to be transported into previously uncontaminated areas or cause re-contamination of a remediated area. At 5X, impacts to surface water could occur if the sheetpile walls failed and contaminants were released into the Santa Maria River or the ocean. Sheetpile wall failures at sites TB4, A2A North, A5A, and B11 can result in discharge of contaminated ground water or diluent to wetland areas. **Special Conditions 33 and 34** require Unocal to design the sheetpile walls to withstand the appropriate local storm conditions and to submit those plans for Executive Director approval.

**Special Condition 28** requires Unocal, during the 5X excavation, to collect weekly samples of ocean water, interstitial water and sediments at the point of ground water discharge at low tide on the sandy beach and to analyze them for hydrocarbon concentrations per the direction of CDFG/OSPR. The sample results are to be submitted to CDFG/OSPR within 24 hours of sample collection. If CDFG/OSPR determines that 5X excavation activities are causing, or have a high likelihood of causing, marine discharges of hydrocarbons, all activities are to cease until the Executive Director and other affected agencies determine how the activities can continue without causing discharges.

The EIR further identifies that use of sheetpile walls may also create ground water mounding upgradient of the walls. This would potentially divert the direction of ground water flow and push contaminated ground water into uncontaminated areas or increase a downward vertical gradient. The B11 site poses the greatest concern in this latter regard, and for excavation at this site Unocal proposes conducting the excavation during late summer when water in the nearby marsh/pond is at its lowest seasonal level, and using a combination of a water bladder, geobags, and/or harbor boom to keep water in the excavation separated from the marsh pond.

## Conclusion

The Coastal Commission therefore finds that impacts to water quality from the proposed project due to turbidity will be mitigated to a level of insignificance upon application of the requirements of the above-described conditions of approval. The Commission further finds that early detection of hydrocarbons entering surface waters, as required in **Special Condition 28**, will ensure that coastal water quality is maintained. The Commission thus finds that the project, as strictly conditioned, can and will be carried out in manner that will maintain the biological quality of coastal waters and is therefore consistent with Coastal Act §§ 30230 and 30231.

### 4.5.3 Filling and Dredging of Coastal Waters

Coastal Act § 30108.2 defines "fill" as "*earth or any other substance or material, including pilings placed for purposes of erecting structures thereon, placed in a submerged area.*"

Placement of temporary geobags along and in the Santa Maria River and on the beach below the mean high tide line, and installation of a portion of the temporary 1,835 foot 5X sheetpile protection wall below the mean high tide line, constitute "fill" as that term is defined in Coastal Act § 30108.2.

In addition, removal of sump material at the D14 and B11 sites will impact approximately .54 acres of wetland habitat.

Coastal Act § 30233(a) states in part:

*The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:*

- 1. New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.*
- 2. Maintaining existing, or restoring previously dredged depths on existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.*
- 3. In wetland areas only, entrance channels for new or expanded boating facilities; and in a degraded wetland, identified by the Department of Fish and Game pursuant to subdivision (b) of Section 30411, for boating facilities if, in conjunction with such boating facilities, a substantial portion of the degraded wetland is restored and maintained as a biologically productive wetland. The size of the wetland area used for boating facilities, including berthing space,*

*turning basins, necessary navigation channels, and any necessary support service facilities, shall not exceed 25 percent of the degraded wetland.*

4. *In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.*
5. *Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.*
6. *Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.*
7. *Restoration purposes.*
8. *Nature study, aquaculture, or similar resource dependent activities.*

Coastal Act § 30233(a) limits open coastal water fill and dredging unless those activities meet the "allowable use" test. To meet this test the activities must fit into one of eight categories of uses permitted for open coastal water fill and dredging as enumerated in Coastal Act § 30233(a).

The express purpose of the proposed project is to remove subsurface petroleum-hydrocarbon contamination and restore the former oil field site to its pre-oil field natural state. This "restoration" project is therefore an allowable use under Coastal § 30233(a)(7).

As noted in other sections of this report, the Commission is requiring a number of mitigation measures to minimize the adverse effects of Unocal's proposed abandonment and remediation project. The project is therefore consistent with Coastal Act § 30233(a).

#### **4.5.4 Oil Spills**

Coastal Act § 30232 states:

*Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.*

#### **Potential Project-Related Oil Spills**

The main purpose of the proposed project is to clean up petroleum hydrocarbon contamination that underlies the Guadalupe oil field and therefore protect against the spillage of oil into the

ocean and the Santa Maria River. The EIR acknowledges, however, that the clean up project itself could cause an accidental release of petroleum hydrocarbons into surface waters due to: (1) failure of a containment wall during excavation or as a result of erosion due to northward migration of the Santa Maria River; (2) recovery and transportation of the floating diluent taken from excavation pits; (3) fueling procedures or leaking fuel from heavy equipment; and/or (4) pipeline removal.

The primary area of concern is the large 5X plume that lies along the beach at the western edge of the field. To avoid impacts to Western snowy plover and California least tern nesting seasons, Unocal proposes to excavate the 5X plume over two winter seasons, between the months of September and March. Beach excavations, especially during the winter storm season, are especially vulnerable to high tides, high-wave runup, and northward migration of the Santa Maria River. These hazards were evident during the 1994 5X excavation where waves overtopped the cofferdam. Therefore, a wall failure or overtopping of the sheetpile during periods of high tides and wave run-up could result in an accidental release of diluent.

Also, in past excavations on the beach, petroleum hydrocarbon foaming in near shore waters has occurred due to the vibrations caused by pounding of sheetpile. Further, the project involves the use of heavy equipment on the beach. Recovered free product from the excavation areas will be collected in vacuum trucks and transported offsite for treatment and disposal. Therefore, fuel or free product could be spilled during truck refueling or ongoing operations.

### ***Oil Spill Prevention***

The first test of Coastal Act § 30232 requires the applicant to provide "protection against the spillage of crude oil, gas, petroleum products, or hazardous substances."

To excavate the plumes, Unocal will use temporary sheetpile to shore the excavation site and contain the petroleum hydrocarbon contaminants. **Special Condition 34** requires that the sheetpile for the 5X West and 5X East excavations be designed to withstand the March 1, 1983 wave conditions, noted as the 100-year storm event. Although the 5X sheetpile wall is currently in place (and could serve as the west side of the 5X excavation cofferdam), Unocal is proposing to construct a second west side wall behind the existing 5X sheetpile wall to provide additional stability and protection. Unocal has also proposed to place temporarily up to 40 geobags along the west and southwest area of the 5X sheetpile wall, if necessary, to provide additional protection against wave runup or river migration.

With respect to the 5X sheetpile protection wall, which will remain in place until the 5X excavation is complete, **Special Condition 30** requires Unocal to monitor the integrity of the wall as specified in Unocal's *Sheetpile Wall Monitoring Program* (dated August 20, 1998) (Exhibit 14).

**Special Condition 28** requires Unocal, during the 5X excavation and with oversight by the independent Onsite Environmental Coordinator, to collect weekly samples of ocean water,

interstitial water, and sediments at the point of ground water discharge at low tide on the sandy beach and analyze them for elevated hydrocarbon concentrations per the direction of the CDFG/OSPR. If CDFG/OSPR determines that 5X excavation activities are causing, or have a high likelihood to cause, marine discharges of hydrocarbons, all activities will cease until affected agencies can consult with Unocal on how the excavation activities can be conducted without causing additional discharges.

Unocal is also proposing in its project-specific oil spill contingency plan a number of spill prevention measures, including:

- Unocal will remove all liquids from each crude oil/diluent pipeline with a vacuum truck prior to cutting the line;
- Unocal proposes to re-fuel heavy equipment only within each site's staging area or within the boundaries of a sheetpile cofferdam to minimize the risk of an accidental spill into surface waters;
- When earthmoving equipment is not operating, drip pans or sorbent material will be placed under the equipment to catch any fluid or fuel leaks that occur, unless it is in the hydrocarbon-affected area;
- Secondary containment will be provided for parked construction equipment and fuel storage vessels. A drip pan will be placed under the fueling point, and sorbent material under the overflow vent outlet;
- Staging, fueling, equipment and materials storage areas drilling fluids, and soil stockpiles will be located at least 100 feet away from surface water bodies or inside bermed areas to prevent release into surface waters;
- All storage vessels used for temporary containment of contaminated groundwater or recovered product will have adequate containment structures in place so that potentially spilled material will not impact adjacent water resources; and
- Proper containment techniques, including plastic sheeting, sorbent pads and booms, and vacuum trucks will be used when cutting or draining pipelines.

The Commission therefore finds the measures proposed by Unocal, in combination with the proposed conditions, consistent with the first test of Coastal Act § 30232.

### ***Oil Spill Response***

The second test of Coastal Act § 30232 requires Unocal to provide effective containment and cleanup equipment and procedures for accidental spills that do occur.

Unocal has prepared an Oil and Fuel Spill Contingency Plan that states that oil spill response equipment will be maintained on site throughout all cleanup and abandonment activities. This equipment includes: 4,000 feet of containment boom, various sorbent materials, 15-foot skiff with oars and outboard, and an oil skimmer. For each excavation project, drum skimmers, hard boom, sorbent boom, and other sorbent materials will be staged adjacent to, or used within, the site during free-product recovery operations. This equipment could also be used during a spill. The oil spill response plan also provides for spill notification and reporting, response tactical priorities and a list of personnel with the 40-hour hazardous materials training (HAZWOPER) required for spill response and cleanup. Unocal's oil spill response plan is missing wildlife exclusion measures and wildlife response procedures. **Special Condition 27** thus requires Unocal, prior to issuance of this permit, to submit to the Executive Director for review, approval a revised Oil Spill Contingency Plan that includes: (a) a Wildlife Exclusion Plan; (b) a Wildlife Response Plan (in the event of oiling of wildlife); and (c) an updated list of Hazwoper trained personnel.

Trained oil spill response personnel will be on site at all times during excavation and decommissioning activities. The personnel will be trained in the proper use of spill response equipment and deployment to provide initial response capabilities before additional resources are mobilized to the scene. When a specific project is not underway, two Unocal or contract personnel trained with the on-site response equipment are typically on site during normal working hours.

Unocal is also a member of the Clean Seas oil spill cooperative located in Santa Barbara County. Clean Seas has in its inventory over 54,000 feet of boom including open ocean, offshore, near shore and protective boom. The majority of Clean Seas' equipment for near shore spill response is located in Carpinteria. A Clean Seas response team will be alerted for any emergency actions that may result in a spill to a waterway. Their response time to the site is approximately three-four hours. Clean Seas also has three oil spill response vessels, *Mr. Clean I*, *Mr. Clean II*, and *Mr. Clean III*, which are currently moored at Port San Luis, Santa Barbara Harbor and Cojo Anchorage. The Clean Seas' oil spill response vessel currently moored at Port San Luis is 30 about 45 minutes away from the Guadalupe oil field. Clean Seas is currently evaluating the potential repositioning of its on-water oil spill response vessels, and/or the decommissioning of one vessel. Should Clean Seas propose to move oil spill response vessels from their current locations, or remove an oil spill response vessel from the current fleet, Unocal will need to apply for an amendment to this permit.

### *Commission Analysis*

Notwithstanding the extensive oil spill containment and cleanup equipment provided by Unocal and Clean Seas, if hydrocarbons are accidentally released to surface waters this state-of-the-art equipment is still not "effective" at cleaning up spills in water. The Commission interprets the word "effective" to mean that spill containment and recovery equipment must have the ability to keep spilled oil off the coastline.

Testing results of equipment and government research facilities in the United States and Canada have demonstrated that oil recovery equipment operates with about 50% efficiency in relatively calm waters. These tests and actual experience in the field demonstrate that recovery efficiencies decrease as turbulence increases. Clean up capabilities in the open ocean will continue to deteriorate if sea dynamics increase. All booms and skimmers are limited in their effectiveness depending on wave height and wind speed. Under conditions of wave heights above six feet, booms and skimmers are largely ineffective (*i.e.*, no measurable amounts of hydrocarbons are recovered). In wind wave conditions, the containment effectiveness of boom begins to lessen at a wave height of two feet. High winds can also cause some types of boom to lay over, allowing oil to splash or flow over the boom.

Weather conditions, characteristics of spilled oil, response time, amount of spilled oil, and the availability of equipment and trained personnel also influence the degree to which a response to a spill is successful. Data from the General Accounting Office indicates that although spill response technology has improved, no more than 10-15% of the oil in most major spills is ever recovered.

The Facility Emergency Response Plan and the Los Angeles/Long Beach Northern Sector Area Contingency Plan will be used as references for implementing response operations. However, should a major release occur during turbulent conditions, response will most likely consist of beach cleanup after the contaminated material washes on shore and is re-deposited.

Therefore, notwithstanding the on-site spill response equipment provided by Unocal and Clean Seas, the ability to effectively contain and clean up an oil spill does not exist at this time. The proposed project is thus inconsistent with the second requirement of Coastal Act § 30232. Nevertheless, the project can be found consistent with the Coastal Act under the "conflict resolution" section of the Coastal Act for the reasons discussed in section 4.5.10 of this report.

#### **4.5.5 Shoreline Processes**

Coastal Act § 30235 states in part:

*Revetments, breakwaters, groins, harbor channels, seawalls, cliff retaining walls, and other such construction that alters natural shoreline processes shall be permitted when required to serve coastal-dependent uses or to protect existing structures or public beaches in danger from erosion, and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply.*

Coastal Act § 30253(1)(2) states:

*New development shall:*

- (1) *Minimize risks to life and property in areas of high geologic, flood, and fire hazard.*

- (2) *Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms among bluffs and cliffs.*

#### ***Installation of HDPE and 5X Sheetpile Walls***

During the 1994 emergency excavation of a portion of the 5X plume, Unocal installed, on the seaward side of the 5X plume, a temporary 965-foot long, 25-foot deep HDPE wall to act as a barrier to diluent migration until the large 5X plume is fully removed.

During fall of 1995, the Santa Maria River dramatically migrated north along the beach and came within 45 feet of the HDPE wall and remaining 5X plume. Due to this threat, the CDFG/OSPR ordered Unocal to prevent a diluent release from occurring. Unocal proposed to install immediately a temporary 370-foot long sheetpile protection wall seaward of the HDPE wall to deflect the migrating river away from the HDPE wall and 5X plume. Unocal also considered some type of river management. However, at that time, Unocal had not yet fully developed a detailed river management plan that could be reviewed and approved by the resource agencies and implemented prior to the 1995-1996 winter storm season.

In November 1995, the Executive Director issued to Unocal emergency permit E-95-15-G to install the 370-foot long 5X sheetpile wall. That emergency permit required Unocal to develop a detailed River Outlet Management Plan ("ROMP") to be considered by the Coastal Commission as a potential alternative to the 5X sheetpile wall.

In April 1996, Unocal submitted to Commission staff a proposed ROMP in the form of a coastal development permit application. The proposal was to divert flow of the Santa Maria River to the south, back to its "historic" outlet, approximately 1,700 to 3,000 feet south of the HDPE wall. The diversion would be undertaken only after the river mouth closed. About 2-4 hours prior to high tide, workers would dig a 3-10 foot wide trench, working from the ocean to the lagoon. At the peak of high tide, the area adjacent to the lagoon would be cut and the lagoon would then drain out this new channel. Unocal proposed this effort as a low impact, minimal river manipulation option.

The Coastal Commission hired three independent peer reviewers<sup>10</sup>, funded by Unocal, to examine the technical adequacy and potential success of the proposed ROMP. Their overall evaluation concluded that while river management could be effective at re-establishing a new southern river mouth location, Unocal's plan would not work as proposed. The reviewers recommended that the existing northern river channel be filled in, or blocked out, to prevent re-establishment of a northern outlet. They also concluded that maintenance breaching might need to be undertaken repeatedly and that there could be significant adverse resource impacts,

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<sup>10</sup> The three peer reviewers were Simons, Li & Associates, Inc., Philip Williams & Associates, Ltd., and Hsieh Wen Shen.

particularly to listed species, as a result of such activities. Based on the conclusions of the third party review, Unocal withdrew its ROMP application in July 1996.

Throughout 1996, the river's outlet remained north and west of the 5X plume and 5X sheetpile wall. Beach surveys showed that continued erosion of the beach could flank the north end of the 370-foot long sheetpile wall and result in a marine release of diluent from the 5X plume area. The RWQCB directed Unocal to take additional action to prevent another marine release. Unocal responded with a proposal to extend the 5X sheetpile wall 1,033 feet north and 450 feet to the southeast. In November 1996, the Executive Director issued emergency permit E-96-02-G for the sheetpile wall extension. (Emergency permit E-96-02-G superceded and replaced E-95-15-G.) The total length of the 5X sheetpile wall is 1,835 feet.

The Commission is not required pursuant to Coastal Act § 30235 to approve the installation on the beach of a sheetpile protection wall to prevent the release of diluent from the 5X plume because the sheetpile wall is not to serve coastal-dependent uses or protect existing structures or public beaches from erosion.

### ***5X Sheetpile Wall Impacts***

The EIR concludes that the 5X sheetpile wall<sup>11</sup> has a significant, adverse impact on natural beach development. The wall affects wave runup and reflection, which alters flow velocities and therefore sand erosion and deposition. This adversely affects the natural process of beach nourishment through wash washup, sand deposition, and overwash. The effect of wave reflection from the wall is to focus wave energy downward, eroding and removing existing sediment. The wall inhibits the natural replenishment of sand that could be eroded in front of the wall by obstructing the movement of sediment from the sand dunes to the beach and vice versa.

The 5X sheetpile wall is exposed to coastal and riverine processes that have exacerbated the erosion of sediments on the western side of the wall. Due to the north-south orientation of the wall, there is no exchange of sediment from the dunes to the beach. Also, exposure of the wall reduces the amount of windblown sand moving from the beach to the foredunes.

Erosion of sediments at the base of the wall will increase whenever there are elevated water levels at the wall associated with the Santa Maria River flowing northward along the beach in front of the wall, or by storm swells and waves that impinge upon the wall. This can lead to localized erosion of the beach seaward of the wall. Whenever the river outlet stays open and is located opposite the wall, tidal waters, currents, and waves are even more likely to reach the wall. Once the wall is exposed and waves break against the wall, hydraulic forces will act on the base of the wall and scour will be exacerbated. Maintaining the seawall as the shoreline continues to erode and retreat will result in a narrower beach.

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<sup>11</sup> The EIR further notes that since the HDPE wall is installed several feet below ground surface, it does not have a significant effect on the beach's natural geomorphologic processes.

The existence of the 5X sheetpile wall has also altered the migration pattern and position of the river channel resulting in erosion of the east bank and foredunes, narrowing of the river spit, and/or modification of the river outlet location. Placement of the sheetpile wall in this area of beach foredune, historically occupied by the Santa Maria River, has established an obstruction or barrier to fluvial processes associated with the river. During most of 1996 and 1997, the river channel was located in the immediate area of the 5X sheetpile wall<sup>12</sup> and significant erosion was observed.

Prior to installation of the 5X sheetpile wall, the river was progressing north along the beach as a natural migration pattern. Under normal conditions, the width of the channel is unrestricted so velocities are lower and migration is slower. After installation, the sheetpile wall created a barrier to the east side of the channel which resulted in a narrower, deeper river channel with greater scour due to the increased flow velocities. As the river continues to migrate north and south, there will be times when contact is made with the southern segment of the sheetpile wall. At these times, flow will be deflected and erosion will occur on the east bank with subsequent loss of adjacent foredune.

The 5X sheetpile wall is thus contributing significantly to erosion of the beach area and is therefore inconsistent with Coastal Act Section 30253.

The EIR thus recommends that the 5X sheetpile walls be removed as soon as possible. **Special Condition 41** requires Unocal to remove the 5X sheetpile at the earliest opportunity following excavation of the 5X plume. If the river or lagoon is present in front of the sheetpile wall, Unocal is to (a) schedule removal for the period November through January to avoid nesting of the tidewater gobies, unless otherwise allowed by USFWS, and (b) prior to removal of the wall, contour the land on the west side to a stable slope that would minimize the probability of a cave-in into the lagoon or river after the sheetpile and HDPE walls are removed.

Until the 5X sheetpile wall is removed, **Special Condition 30** requires Unocal to monitor the 5X sheetpile wall as set out in the *Unocal Guadalupe Sheetpile Wall Monitoring Program* (dated August 20, 1998) (See Exhibit 14). The monitoring program requires Unocal to: (a) visually inspect the wall, sand spit and river bank daily; (b) conduct elevation surveys of the wall, sand spit and riverbank quarterly from May to October and weekly from November through April; (c) monitor monthly groundwater elevations landward of the wall; and (d) photograph the site on a monthly basis. Between September 30 and March 1 of each year (after the snowy plovers have left the area), **Special Condition 31** requires Unocal to make sure that the 5X sheetpile wall is covered in sand, except in those locations where the Santa Maria River is immediately adjacent to the 5X sheetpile wall.

#### ***Installation of Temporary Sheetpile at Plume Excavation Sites***

Unocal proposes to install temporary sheetpile at each of the three plume excavation sites and at the B11, TB4 and D14 sump sites. Use of sheetpile to conduct an excavation limits the area of

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<sup>12</sup> In February 1997, Unocal installed H-beam walers on the wall to provide additional structural stability.

disturbance and therefore minimizes adverse erosion and sedimentation patterns. **Special Condition 32** requires that prior to sheetpile installation at each excavation site, the Executive Director shall review and approve sheetpile locations to ensure that site disturbance is minimized. **Special Condition 33** requires that the sheetpile walls be designed by a licensed civil engineer and that each wall's design be submitted to the Executive Director for review and approval. To ensure the sheetpile's structural integrity, **Special Condition 34** requires that the seaward sides of the temporary sheetpile for the 5X excavation, and any associated energy dissipation system (*i.e.*, geobags), be designed to withstand the 100-year storm event (maximum wave runup height of 8 feet, combined with a 7-foot astronomical tide, and a scour depth of 0.0 feet). **Special Condition 9** requires the temporary sheetpile to be removed after each excavation area is backfilled with clean material.

### *Impacts of Excavating Plumes/Sumps*

The EIR also identifies that excavation activities will likely cause short-term adverse impacts to geomorphologic processes at the site. The excavation of sediments in active and stable dune zones may modify erosion and sedimentation patterns as a result of wind scour, contour changes, and loss of vegetation. Open, exposed, and unvegetated areas will be eroded by wind processes, and sediments will be distributed to other areas, thus adversely affecting sedimentation.

To minimize such impacts, **Special Condition 8** requires that prior to ground disturbance at each site Unocal submit to the Executive Director for review and approval procedures for soil stabilization and erosion control. Prior to initiating construction activities, **Special Condition 16** requires Unocal to brush-rake the excavation area and, to the maximum extent feasible, salvage seeds. Top soil and clean overburden will be removed and stockpiled under the requirements of **Special Condition 17**. Soil stockpiles will be covered with plastic sheeting to prevent wind erosion and reduce exposure to precipitation.

The compatibility of sediment used to replace the affected soils is also critical to maintaining the natural sedimentation processes for dune maintenance and development. **Special Condition 37** requires Unocal to submit to the Executive Director a sediment grain-size analysis of removed and replacement material. No filling of an excavated area shall occur until the grain-size compatibility between the removed sediment and replacement sediment is approved by the Executive Director. To evaluate replacement material suitability, Unocal is to provide to the Executive Director (a) the volume and sources of replacement material; (b) sieve analyses for all replacement material and native sands (16<sup>th</sup>, 50<sup>th</sup>, and 87<sup>th</sup> percentile grain sizes by weight, at a minimum); (c) overfill ratio for sites subject to erosional forces by ocean waves and the river; and (d) color analysis and color sample of all native and replacement materials that have the potential to become exposed.

After clean soil has been placed into the excavation cavity pursuant to **Special Conditions 36** and **37**, stockpiled soil will be redistributed over the backfill material. When the sites have been backfilled, Unocal will compact and re-grade the excavated and altered areas. **Special Condition 9** in part requires Unocal to (a) obtain pre-construction topographic survey information and (b) upon, completion of an excavation, remove the temporary sheetpile and restore the ground

surface to approximate its pre-construction topographic profiles. Restoring contours that match adjacent dune forms is critical to minimizing future erosion/sedimentation problems. Vegetation and detritus from the brush-raked stockpile will then be added, providing a combination of organic mulch and wind erosion control to promote natural revegetation of the remediation sites. The areas will be restored and revegetated as further required by **Special Condition 9**.

### *Tsunamis*

A seismically generated tsunami could have a significant impact on the excavation activities proposed within the beach area. Tsunami runup (9 to 24 feet for return periods of 100 to 500 years, respectively) would impact excavation areas through inundation of open excavations, submergence of equipment within excavations, overtopping of sheetpile walls, and disturbance of beach access. Except for the 5X excavation, the planned excavations do not cover large areas and each will remain open for a short period of time. The EIR considers it highly improbable that a tsunami capable of generating runup will occur. However, **Special Condition 35** requires Unocal in the event of a tsunami warning to move all personnel and movable equipment from the beach area and to a safe elevation based on the warning. If no elevation is given in the warning, all personnel shall be evacuated to an elevation at or greater than 100' mean sea level (msl) and movable equipment shall be moved to or above the "B" road. If equipment cannot be moved within the time allowed by a tsunami warning, to the extent safe and feasible, Unocal shall secure or anchor all equipment and drain all fuel tanks to prevent a marine release of hydrocarbons.

### *Conclusion*

For the reasons stated above, the Commission finds the 5X sheetpile wall component of the Beach Projects inconsistent with Coastal Act §§ 30235 and 30253. Nevertheless, the project can be found consistent with the Coastal Act under the "conflict resolution" section of the Coastal Act for the reasons discussed in Section 4.5.10 of this report.

#### **4.5.6 Public Access and Recreation**

Coastal Act § 30210 states:

*In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resources from overuse.*

Coastal Act § 30211 states:

*Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.*

Coastal Act § 30221 states:

*Oceanfront land suitable for recreational use shall be protected for recreational use and development unless present and foreseeable future demand for public and commercial recreational activities that could be accommodated on the property is already adequately provided for in the area.*

The 2,700-acre former oil field is part of the 10-mile long Nipomo Dunes Complex, which contains one of the most unique, sensitive and relatively undisturbed coastal dune ecosystems in the state. The dune complex is also a heavily used recreational area.

The shoreline of the Guadalupe oil field is bounded on the south and the north by the Guadalupe Nipomo Dunes Preserve which has many owners but is overseen and managed by the Nature Conservancy. The closest recreational access to the beach west of the project site is provided from the Guadalupe-Nipomo Dune Preserves two entrances. One entrance is located in northern Santa Barbara County ¾ mile south of the oil field at Rancho Guadalupe County Park, immediately south of the Santa Maria River. The other entrance is approximately four miles north of the oil field at Oso Flaco Lake Natural Area in San Luis Obispo County. The public uses the beach west of the site but is not allowed on the former oil field. There is no public coastal access through the oil field.

The EIR notes that about 83,000 people visited the Preserve in 1996. Visitation rates are highest in the summer and fall and drop off during the rainy, winter months. A 1995 survey of Preserve visitors indicated that the five most frequently mentioned reasons for visiting were: sightseeing, fishing, curiosity, exercise and surfing. Horseback riding and dog walking are seasonally restricted to protect nesting California least terns and western snowy plovers. The majority of visitors spent their time south of the Santa Maria River and oil field at Rancho Guadalupe County Park.

Coastal access via the Preserve is facing increasing demand as local populations and tourism increase. No new beach or coastal accessways are currently planned in southern San Luis Obispo County. Access to and availability of coastal access has been limited in northern Santa Barbara County since many portions of the north County are in private or military ownership and restricted to public use.

#### ***Project-Related Access/Recreation Impacts***

Unocal's past and proposed Beach Projects have reduced and will continue to reduce the quality of the recreational experience along the shoreline. Partial excavation of the 5X plume in the summer and fall of 1994 occasionally precluded public passage along the beach immediately west of the site. The presence of remedial activities during high tides or storm events may affect public access along the shore, particularly during the future excavation of the 5X plume. The presence of construction teams close to the beach will negatively affect the recreational experience of beach users by reducing the solitude of the beach experience. Also, visitors to Rancho Guadalupe County Park may refrain from using the beach area near the oil field due to the industrial character of the cleanup and abandonment work and the presence of noisy, heavy equipment. Hydrocarbon odors generated during excavations may also deter beach users.

To minimize the projects' adverse effects on access and recreation, the Commission is requiring in **Special Condition 39** that Unocal provide adequate fencing and other markings to warn the public of project hazards. During beach excavations and other activity near points of public access at the beach, Unocal shall station a worker to keep the public at a safe distance from the work areas while still allowing the public to traverse the beach. The Commission is also requiring in **Special Condition 40** that at least one week before starting project activities, Unocal shall coordinate with the Nature Conservancy and California Department of Parks and Recreation to provide notice to beach users of project activities. Signs in English and Spanish shall be posted at Rancho Guadalupe County Park and Oso Flaco Lake parking lots. The signs shall indicate that the beach will remain open during project activities.

To mitigate for unavoidable public access and recreation impacts caused by the past projects (approved by emergency permits) and the overall Phase 1 cleanup and abandonment project, the County's coastal development permit/development plan requires Unocal to (1) re-offer to dedicate shoreline public access and open space easements originally required by a 1980 coastal development permit; (2) indemnify the party(s) that accept the OTDs against any claim that could arise out of Unocal's oil field operations; (3) fund access improvements at the Guadalupe Nipomo Dunes Preserve; and (4) either provide an open space, habitat protection, and public access easement over the entire 2,700 acre oil field, if feasible, or acquire or cause the acquisition of irrevocable protective easement over similar habitat areas within the Guadalupe-Nipomo Dunes Complex.

#### *Offers to Dedicate Access/Open Space Easements Along the Shoreline*

As part of a 1980 coastal development permit (CDP 409-24) to expand oil production operations at Guadalupe, the Coastal Commission required Unocal to dedicate two easements over approximately 300 acres of sand dune habitat between the Santa Maria River and the Mobil Coast Preserve to the north. The first easement is for public access and would occupy a band of 80 acres between the mean high tide line and the area that was once the first row of oil wells. The second easement is for habitat protection and preservation of open space that would occupy 300 acres, including the north-to-south public access strip along the beach.

On June 11, 1980, Unocal recorded OTD 23796 and 23795 for easements providing for limited public access and habitat protection/open space, respectively (Exhibit 15). The OTDs are irrevocable for a period of 21 years running from the date of recordation. Although the Coastal Conservancy has expressed interest in accepting the grant of easements, it and other potential recipients have not done so due to the petroleum contamination at the site. These OTDs are due to expire June 11, 2001.

The Commission is concerned that these OTDs may expire before any party accepts them. As discussed in Section 4.2.9 of this report, after Commissioners Wan and Areias appealed the County's September 1998 coastal permit decision, Commission staff worked with the County to revise the County's conditions of approval to require Unocal to (a) re-offer to dedicate the OTDs that are due to expire in 2001, and (b) indemnify any party that accepts the OTDs. The County's coastal permit and **Special Conditions 43** and **44** of this permit require that the subject OTDs be

effective for at least 25 years after the RWQCB issues a closure letter for the site. In addition, Unocal must issue a fully executed Indemnity Agreement in a form and content as set forth in Exhibit 16 to any entity approved by the Executive Director to accept the existing or new, replacement OTDs. The Indemnity Agreement shall indemnify the party accepting the OTDs from and against any and all liability, loss, costs, damages, claims, liens and expenses which directly or indirectly arise out of or are in any way associated with any past, present and future operations or activities conducted at the Guadalupe oil field by Unocal or any person acting as Unocal's representative or contractor.

### ***Public Access/Recreation Improvements***

The County's coastal permit (Exhibit F, Condition 109) also requires Unocal to fund \$1,069,000 in public access improvements and community outreach and education programs within the Guadalupe Nipomo Dunes Preserve. Of the \$1,069,000, the Rancho Guadalupe County Park received \$784,000 in March 1999 for development of a Park Master Plan (to include construction of a roadside viewpoint, parking lot, restrooms, and interpretative signs) and five years of park maintenance. The remaining funds are going to the Nature Conservancy's Dunes Center<sup>13</sup> in the City of Guadalupe to fund three years of operations, training of volunteers, management of outreach and education programs, and community activities.

### ***Site-wide Easement Required by County Coastal Permit***

In addition, to mitigate 15 significant, unavoidable "Class I" impacts, (as identified in the EIR), the County is requiring in its coastal permit (Exhibit F, Condition 110) that if Unocal acquires ownership of the oil field (Unocal is currently trying to purchase the oil field from the Leroy Trusts), it shall irrevocably offer to dedicate to a public agency or private non-profit association a site-wide open space, habitat protection, and public access easement. The purpose of the site-wide easement is for visual resource protection, habitat protection, and managed public access to the Guadalupe dunes and shoreline. The easement is to be located over the entire oil field, which is approximately 2,700 acres. The offer is to provide that no development, except for habitat restoration, remediation activities, abandonment activities and other support facilities for habitat restoration and managed public access, shall occur within the easement area.

In the alternative, Unocal may grant fee title to the entire oil field to a public agency or private non-profit (approved by the Executive Director and the County Planning Director) for the purposes described above.

Unocal may not succeed in acquiring ownership of the oil field, however. In this event, Unocal must acquire or cause the acquisition of irrevocable protective easements over a combination of

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<sup>13</sup>The Dunes Center was established by the Nature Conservancy in 1996, in partnership with the People for the Nipomo Dunes, Coastal Conservancy, and the Guadalupe Chamber of Commerce. The Dunes Center is a community-based interpretive center that provides visitor orientation, educational outreach, and research to promote conservation of the Guadalupe Nipomo Dunes. Approximately 6,500 people visit the Dunes Center per year. The Nature Conservancy recently transferred management responsibility of the Dunes Center, on a temporary basis, to the Land Conservancy of San Luis Obispo County.

foredune, backdune, and/or wetland habitats in the Guadalupe-Nipomo Dunes Complex that are the functional biological equivalent of the oil field site in its natural condition.

If Unocal demonstrates to the satisfaction of the County Board of Supervisors and the Coastal Commission that implementation of one of these three options is infeasible, Unocal shall pay to the County by June 30, 2001 a mitigation fee in an amount equal to the monetary value of such open space, habitat protection, and managed public access easement. If the value of such easement is not agreed upon by the Executive Director, County Planning Director and Unocal, then it shall be appraised by an appraiser chosen by the San Luis Obispo Superior Court. The funds are to be used by the County within 10 years for the purchase and/or habitat restoration of property in the Guadalupe-Nipomo Dunes Complex.

The Commission thus finds that the cleanup and abandonment project, as strictly conditioned by the Commission and the County, will preserve the public's right of access to the coast and provide for oceanfront recreational use and, therefore, is consistent with Coastal Act §§ 30210, 30211 and 30221.

#### 4.5.7 Visual Resources

Coastal Act § 30251 states in part:

*The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas.*

The project area is located within the 12,000 acre Nipomo Dunes Complex, which reaches from Pismo Beach in southern San Luis Obispo County to Mussel Rock in northern Santa Barbara County. In designating the Nipomo Dunes Complex as a National Landmark, the Secretary of the Interior stated that "... The area... [is] one of the most scenically attractive areas in southern California. The EIR notes that views of the dunes and views from the dunes are "highly sensitive". A highly sensitive area is defined as one in which the affected views are rare, unique or in other ways special to the region or locale.

As discussed in Section 4.5.6 of this report, the public does not have access to the portion of dunes within Unocal's lease area, but may enter the beach and dunes area via entrances at Oso Flaco Lake to the north and Ranch Guadalupe County Park to the south.

The EIR notes that visitors entering the Oso Flaco Lake Natural Area do not frequently hike south along the beach to the mouth of the Santa Maria River, which is approximately 3.8 miles away. A 1995 Nature Conservancy visitor survey indicates that a significant portion of the Rancho Guadalupe County Park visitors spend their time between the parking lot and the river mouth or on the beach north of the river. Visitation rates are highest in the summer and fall and drop off during the winter. Access to the beach north of the river is periodically blocked by the

river during high flows, high tides, winter storms, or when the lagoon drains through a natural breach of the sand spit. Therefore, most visitors congregate north and south of the project area.

However, excavation of the large 5X plume and shoreline sumps, scouring of the 5X sheetpile wall, and the placement of geobags along the west and southwest corner of the site have caused, and will cause, adverse visual impacts to beach users.

### ***Project-Related Visual Impacts***

The 1835-foot long 5X sheetpile wall, installed in two phases between 1995-1996, will be in place for up to a total of five years. Between November 1995 and November 1997 approximately 1,100 feet of the west-facing sheetpile was scoured to a depth of -7 to -15 feet, resulting from northward migration of the Santa Maria River or from erosion of the sand-spit during winter storms. Since November 1997, sediment has deposited in front of the sheetpile wall and it is rarely visible.

The scoured sheetpile wall was visible to visitors at Rancho Guadalupe County Park. The picket-like striations of the wall and its large scale served to draw attention and dominate the view. An exposed sheetpile wall is clearly incongruous with the surrounding foredunes. The EIR concludes that the adverse visual impact of the sheetpile wall, when exposed, is significant. Although the sheetpile wall is currently fully covered, it could again become scoured and exposed during future winter seasons. Removing the sheetpile wall as soon as possible will eliminate this visual impact. **Special Condition 41** requires Unocal to remove the 5X sheetpile at the earliest opportunity following excavation of the 5X plume, which is scheduled to be completed by March 2001. **Special Condition 41** further requires Unocal to re-contour the disturbed area to its natural seasonal profile.

The presence of geobags along the riverbank has a similar adverse aesthetic impact. The bags are large and black and clearly inconsistent with the visual character of the surrounding dune environment. Some of the geobags will be visible to beach users at all times, even during the summer peak recreational season. The geobags are temporary, however. Some may be in place for a few months during the winter storm season, if necessary, and then immediately removed. Those placed along the riverbank at the southwest corner of the oil field may be in place 2-3 years. **Special Condition 42** requires Unocal to remove all geobags at the earliest opportunity following excavation of plumes and sumps authorized by this permit.

Construction activities associated with the 1994 5X beach excavation caused significant short-term adverse visual impacts. Construction activities spanned about five months and included the presence and movement of heavy equipment, the construction of a large cofferdam, platforms, tanks, staging areas, and soil stockpiles.

The EIR notes that future excavation of the 5X West and East sites will be readily discerned by beach users when viewed at distances of up to one half mile away. Adverse visual impacts to beach users will be minimized, however, since the 5X West and 5X East excavations will be

carried out between the months of September and March (to avoid the snowy plover nesting season), and therefore outside the peak use recreation season.

To minimize the adverse visual effects of the Beach Projects, **Special Condition 38** requires Unocal to schedule the excavations located within the viewshed of Rancho Guadalupe County Park during the winter season, if feasible. **Special Conditions 41 and 42** require that all sheetpile and geobags be removed after excavation of plumes and sumps. **Special Condition 9** requires Unocal to re-grade the disturbed areas to approximate pre-existing topography and then revegetate the sites.

Although excavation activities will remove all vegetation from the foredunes within the areas of disturbance, the areas of bare sand will appear similar to natural areas of wind scour. The EIR concludes that their appearance would be perceived to be an adverse visual impact only if before-and-after photographs were to be compared. To the public, the disturbed area would appear to be within the range of what is expected in a dune environment. The EIR thus concludes that if the above-mentioned measures are implemented by Unocal, the project's adverse visual impacts will be temporary and short-term.

The abandonment component of the project will improve the visual quality of the oil field area. Unocal proposes to remove all pipelines, well pads, and access roads associated with the oil field, returning the site to its former natural state. This abandonment work will require use of heavy equipment; however, the adverse visual impacts of the abandonment activities will be short-term.

The Commission thus concludes that notwithstanding the project's adverse visual impacts, these impacts will be short-term. The cleanup and abandonment project, as conditioned, will minimize any long-term alteration of natural land forms and, when complete, will enhance the visual quality of this area. The Commission therefore finds the project, as conditioned, consistent with Coastal Act § 30251.

#### **4.5.8 Archaeological Resources**

Coastal Act § 30244 states:

*Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.*

The proposed project is within an area of central California with a history of prehistoric occupation extending over the past 9000 years. The Native American group, Purismeno Chumash, resided at and near the oil field lease area between 950 and 200 Before Present. The EIR identifies one sensitive archaeological site, SLO-851, within the boundary of the former oil field; however, this site is not near the past or proposed Beach Projects that are subject of this

permit application. No other remediation sites are located within or adjacent to recorded archaeological sites.

Although no archaeological sites are recorded in any of the remediation sites, it is possible that buried, unrecorded cultural deposits exist below active or stabilized dune formations. Any such resource would most likely be encountered above areas of tidal influence. Therefore, the County of San Luis Obispo is requiring that all ground disturbance be monitored by a County-qualified archaeologist and local Native American representative. If a potentially significant archaeological or historical material is identified, work shall be temporarily redirected and Unocal shall fund a Phase 2 archaeological assessment of the find. If the materials are determined to be significant under CEQA, Appendix K criteria, Unocal shall fund a Phase 3 data recovery mitigation program to collect a representative sample of the materials that would be lost. All investigations are to be performed by a County-qualified archaeologist and local Native American representative.

The Commission therefore finds the project consistent with Coastal Act § 30244.

#### 4.5.9 Air Quality

Coastal Act § 30253(3) states:

*New development shall be consistent with requirements imposed by the air pollution control district or the State Air Resources Control Board as to each particular development.*

The San Luis Obispo Air Pollution Control District ("SLOAPCD") is the local air pollution control district responsible for implementing federal and state air quality standards in the project area. For regulatory purposes, air pollutants are generally recognized as "criteria pollutants" or as toxic air pollutants. Criteria pollutants include carbon monoxide ("CO"), nitrogen oxide ("NO<sub>2</sub>"), sulfur dioxide ("SO<sub>2</sub>"), particulate matter with a diameter of up to 10 microns ("PM10"), lead, sulfates and hydrogen sulfide ("H<sub>2</sub>S"). Toxic air pollutants are those known or suspected to cause cancer, genetic mutations, birth defects, and other serious illnesses to people. Reactive organic gases ("ROG") are also of concern because of their role in forming ozone, a secondary pollutant.

For most criteria pollutants, regulatory and control standards have been in effect for more than 20 years and control strategies are designed to ensure that the ambient concentrations do not exceed certain thresholds. For toxic air emissions, the air district usually assesses the potential impacts to public health in terms of "risk" and emissions may be controlled by prescribed technologies.

The past Beach Projects (those authorized by emergency permits in 1994-1998) and proposed Beach Projects are subject to SLOAPCD permit requirements, rules and regulations. Permits are required for storage and stockpile of contaminated materials, thermal treatment devices, and

large stationary engines. The EIR identifies that air pollutants will result from construction activities, operation of construction equipment, fugitive dust sources and exposed hydrocarbon areas.

#### *Past Beach Projects*

For the 1994 5X plume excavation, SLOAPCD issued to Unocal Permit to Operate ("PTO") U-3032-G-1 for the excavation and stockpiling of 125,000 cubic yards of petroleum-contaminated soil. Permit conditions included the covering the contaminated soils with a vapor barrier, a soil monitoring plan aimed at identifying volatile hydrocarbon and sulfur associated with the contaminated material, fugitive dust controls, and air monitoring downwind of the excavation zone and stockpile areas. SLOAPCD modified existing Unocal permits U-3032-A-1 and U-3032-F-1 to cover water collection and piping systems used during the 5X project. Unocal offset fugitive hydrocarbon emissions caused by the 5X excavation by closing sumps at Tank Battery 8 and Tank Battery 9 that were under APCD permits.

Two thermal desorption units ("TDU") were used to "clean" contaminated soil after excavation. In November 1994, SLOAPCD issued PTO G-1665-A-1 to Granite Construction for the 120 ton/hour TDU and PTO U-3032-H-1 to Unocal for the 30 ton/hour TDU. Both permits specified emission limits for the amount of total non-methane hydrocarbons ("TNMHC"), oxides of sulfur ("SO<sub>x</sub>"), oxides of nitrogen ("NO<sub>x</sub>"), particulate matter smaller than 10 microns ("PM10"), and carbon monoxide ("CO") that could be emitted from each unit per ton of contaminated soil processed. SO<sub>x</sub> emissions were a primary concern and estimated to be 108 tons over the duration of the 5X project. To offset those emissions under SLOAPCD Rule 204, Unocal sought and achieved contemporaneous emission offset credits through closure of the coke plant at the Santa Maria Refinery.

For the A2A area projects, Unocal received in March 1998 PTO U-3032-G-3 to excavate and stockpile about 29,000 cubic yards of petroleum contaminated soil. Permit conditions were similar to those required by SLOAPCD during the 1994 5X plume excavation.

Neither the 5X sheetpile installation nor removal of the Leroy 2 sump required air district permits.

#### *Proposed Beach Projects*

At present, Unocal holds several air permits for equipment and processes associated with ongoing ground water and soil treatment efforts at Guadalupe. Operation of the Land Treatment Unit is covered under PTO U-3032-G-4 and requires covering of stockpiles of contaminated materials, air and soil monitoring.

On October 13, 1999, SLOAPCD issued to Unocal PTO 598-1 to cover Phase 1 remediation and abandonment activities required by RWQCB CAO 98-38. The PTO addresses emissions from contaminated stockpiles, the Land Treatment Unit, and waste treatment operations. Also

included are sources not typically included in air permits such as heavy-duty off-road construction equipment and worker commuter trips. These latter sources are considered "CEQA sources" since mitigation of these measures typically occurs through the CEQA process and not through issuance of an air district permit.

Emissions of ROG, NO<sub>x</sub>, and PM10 from the "CEQA sources" are projected to significantly exceed SLOAPCD's emission thresholds. Therefore, SLOAPCD staff negotiated with Unocal the establishment of a "CEQA mitigation fund"<sup>14</sup> at a rate of \$7,000 per ton (ROG+ NO<sub>x</sub>+PM10) to be used by the air district to fund projects in the area capable to reducing air quality impacts. SLOAPCD estimates the fund to be approximately \$900,000 (Letter from Barry Lajoie, San Luis Obispo Air Pollution Control District, to Alison Dettmer, CCC, October 4, 1999).

The Commission thus finds that the project will be carried out consistent with the rules and requirements of the local air district and therefore is consistent with Coastal Act § 30253(3).

#### 4.5.10 Policy Conflict Resolution

Coastal Act § 30007.5 states in relevant part:

*The Legislature further finds and recognizes that conflicts may occur between one and more policies of the division. The Legislature further declares that in carrying out the provisions of this division such conflicts be resolved in a manner which on balance is the most protective of significant coastal resources. In this context, the Legislature declares that broader policies which, for example, serve to concentrate development in close proximity to urban and employment centers may be more protective, overall, than specific wildlife habitat and other similar resource policies.*

The Commission finds that in applying the policies of Chapter 3 of the Coastal Act to Unocal's proposed cleanup and abandonment project results in conflicts between certain Coastal Act policies. However, for the reasons described below, the Commission believes that after applying the standard of Coastal Act § 30007.5, on balance, it is most protective of coastal resources to approve the project:

- The Commission found in Section 4.5.1 of this report that the cleanup and abandonment project will cause significant, adverse, and perhaps unmitigable, impacts to marine resources and ESHA and the sensitive species they support. The Commission thus found the project inconsistent with Coastal Act §§ 30230, 30231 and 30240(a) which require that marine resources, ESHA, and species of special biological concern be maintained and protected.

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<sup>14</sup> SLOAPCD envisions a variety of projects that could be funded with the CEQA mitigation fund, including the retrofit or replacement of booster pumps used in agricultural production, heavy-duty on- and off-road vehicle re-power and retrofit options, installation of alternative fuel infrastructure, bicycle lanes and transit infrastructure.

However, if the hydrocarbon contamination is left in place, future discharges of the contaminated soil and groundwater into surface waters and ESHAs could cause greater damage to marine resources, ESHAs and the sensitive species they support which is in clear conflict with Coastal Act §§ 30230, 30231 and 30240(a) standards that require healthy populations of marine resources, ESHAs and species of special biological significance to be maintained and protected. Therefore, eliminating the potential for the spillage of hydrocarbons by removing the contamination, as required by Coastal Act § 30232, will be more protective of coastal resources than leaving such contamination in place.

- The Commission found in Section 4.5.4 of this report that in the event of a release of hydrocarbons into surface waters, there is currently no "effective" oil spill containment and cleanup equipment available to keep oil off the shoreline. The Commission thus found the project inconsistent with the second test of Coastal Act § 30232 which requires that an applicant provide effective cleanup equipment for accidental spills that do occur.

However, leaving the contamination in place will increase the likelihood of a large release of hydrocarbons into surface waters and ESHA, including wetlands, especially since much of the contamination underlies the active beach area, the historical channel of the Santa Maria River, or is in or adjacent to wetland areas, and is susceptible to erosion. Therefore, eliminating the potential for the spillage of hydrocarbons by removing the contamination, as required by the first test of Coastal Act § 30232, will be more protective of coastal resources than leaving such contamination in place.

- The Commission found in Section 4.5.5 of this report that it is not required pursuant to Coastal Act § 30235 to approve the installation on the beach of a sheetpile protection wall (approved under emergency permit E-97-03-G) to prevent the release of diluent from the 5X plume because the 5X sheetpile wall does not serve coastal-dependent uses or protect existing structures or public beaches from erosion. The Commission also found the 5X sheetpile wall to be causing significant erosion to Guadalupe Beach and, therefore, is inconsistent with Coastal Act § 30253(a) which requires that new development neither create nor contribute significantly to erosion.

However, requiring removal of the 5X sheetpile wall now, before complete removal of the large 5X plume, will increase the likelihood of a large release of hydrocarbons into the ocean and Santa Maria River which conflicts with the marine resource (Sections 30230 and 30231), ESHA (Section 30240(a)) oil spill (Section 30232), and public access and recreation policies (Sections 30210, 30211 and 30221) of the Coastal Act.

For these reasons, the Commission finds pursuant to Coastal Act § 30007.5 that, on balance, it is more protective of coastal resources to resolve these conflicts by approving the proposed cleanup and abandonment project. Accordingly, the Commission concludes that the project is consistent with the Coastal Act.

## **5.0 California Environmental Quality Act**

As "lead agency" under CEQA, the County of San Luis Obispo certified in March 1998 an EIR for Unocal's overall Phase 1 Guadalupe oil field remediation and abandonment project and the Past Beach Projects. The EIR did not cover removal of the sumps that have since been identified by Unocal or the widening of the A road. Therefore, in September 1999, the County prepared an Addendum to the EIR.

The Commission's permit process has also been designated by the State Resources Agency as the functional equivalent of the CEQA environmental impact review process. Pursuant to section 21080.5(d)(2)(A) of the CEQA and section 15252(b)(1) of Title 14, California Code of Regulations, the Commission may not approve a development project "if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impact which the activity may have on the environment." The Commission finds that there are no feasible less environmentally damaging alternatives or additional feasible mitigation measures that would substantially lessen any significant adverse impact which the activity may have on the environment, other than those identified herein. Therefore, the Commission finds that the project is consistent with the provisions of the CEQA.

## APPENDIX A

### Standard Conditions

1. Notice of Receipt and Acknowledgment. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
2. Expiration. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.
3. Compliance. All development must occur in strict compliance with the proposal as set forth in the application for permit, subject to any special conditions set forth below. Any deviation from the approved plans must be reviewed and approved by the staff and may require Commission approval.
4. Interpretation. Any questions of intent of interpretation of any condition will be resolved by the Executive Director or the Commission.
5. Inspections. The Commission staff shall be allowed to inspect the site and the development during construction, subject to 24-hour advance notice.
6. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
7. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

## APPENDIX B

### Substantive File Documents

#### *Coastal Development Permit Application Materials*

Coastal Development Permit Application E-99-009.

#### *Agency Permits and Orders*

Emergency Permit E-94-12-G, issued by the Coastal Commission's Executive Director, August 23, 1994.

Emergency Permit E-95-18-G, issued by the Coastal Commission's Executive Director, November 30, 1995.

Emergency Permit E-97-03-G issued by the Coastal Commission's Executive Director, February 21, 1997

Emergency Permit E-98-09-G issued by the Coastal Commission's Executive Director, May 8, 1998.

Coastal Development Permit/Development Plan No. D890558D, approved by the County of San Luis Obispo, December 1998.

Coastal Development Permit Appeal No. A3-98-91 filed by Commissioners Wan and Areias, October 18, 1998.

Cleanup or Abatement Order No. 98-38. Central Coast Regional Water Quality Control Board, April 1998 (as amended November, 1998).

Pre-Construction Notification File 97-50261-TW. U.S. Army Corps of Engineers, Nationwide Permit 38, Cleanup of Hazardous and Toxic Waste, September 13, 1999.

Unocal Oil and Fuel Spill Contingency Plan, February 24, 1999, as approved by California Department of Fish and Game Office of Spill Prevention and Response February 2, 1999, with letter of October 7, 1999 modifying Emergency Response Inventory Lists.

***Environmental Documents/Reports***

Guadalupe Oil Field Remediation and Abandonment Project Environmental Impact Report SCH# 96051053, certified by the County of San Luis Obispo in March 1998.

Addendum to the Guadalupe Oil Field Remediation and Abandonment Project Environmental Impact Report, September 30, 1999.

Executive Summary of 5X Beach and A2A North Ecological Risk Assessment, August 18, 1999.

Letter Report on Unocal's Santa Maria River Outlet Maintenance Plan, Hsieh Wen Shen, June 7, 1996.

*Santa Maria River Migration at the Coast: Channel Migration Estimates and Channel Management Plan*, Events Coastal, prepared for Unocal Corporation, September 20, 1995.

*Review of the Santa Maria River Outlet Management Plan*, prepared by Philip Williams & Associates, Ltd., June 13, 1996.

Review Comments on Santa Maria River Outlet Maintenance Plan, prepared by Simons, Li & Associates, Inc., June 5, 1996.

***Letters***

Letter from Barry Lajoie, County of San Luis Obispo Air Pollution Control District, to Alison Dettmer, Coastal Commission, October 4, 1999.

***OTD Documents***

Irrevocable Offer to Dedicate an Easement for Limited Public Access, Document Number 23796.

Irrevocable Offer to Dedicate an Easement for Habitat Protection and Open Space, Document Number 23795.



# W13a

## Exhibit Packet

E-99-009 — Unocal

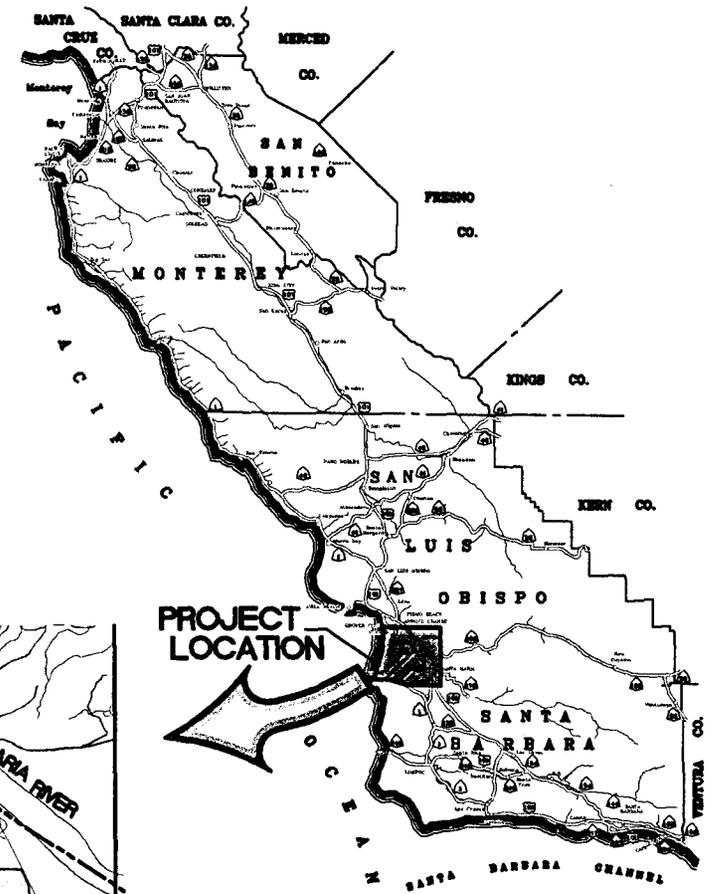
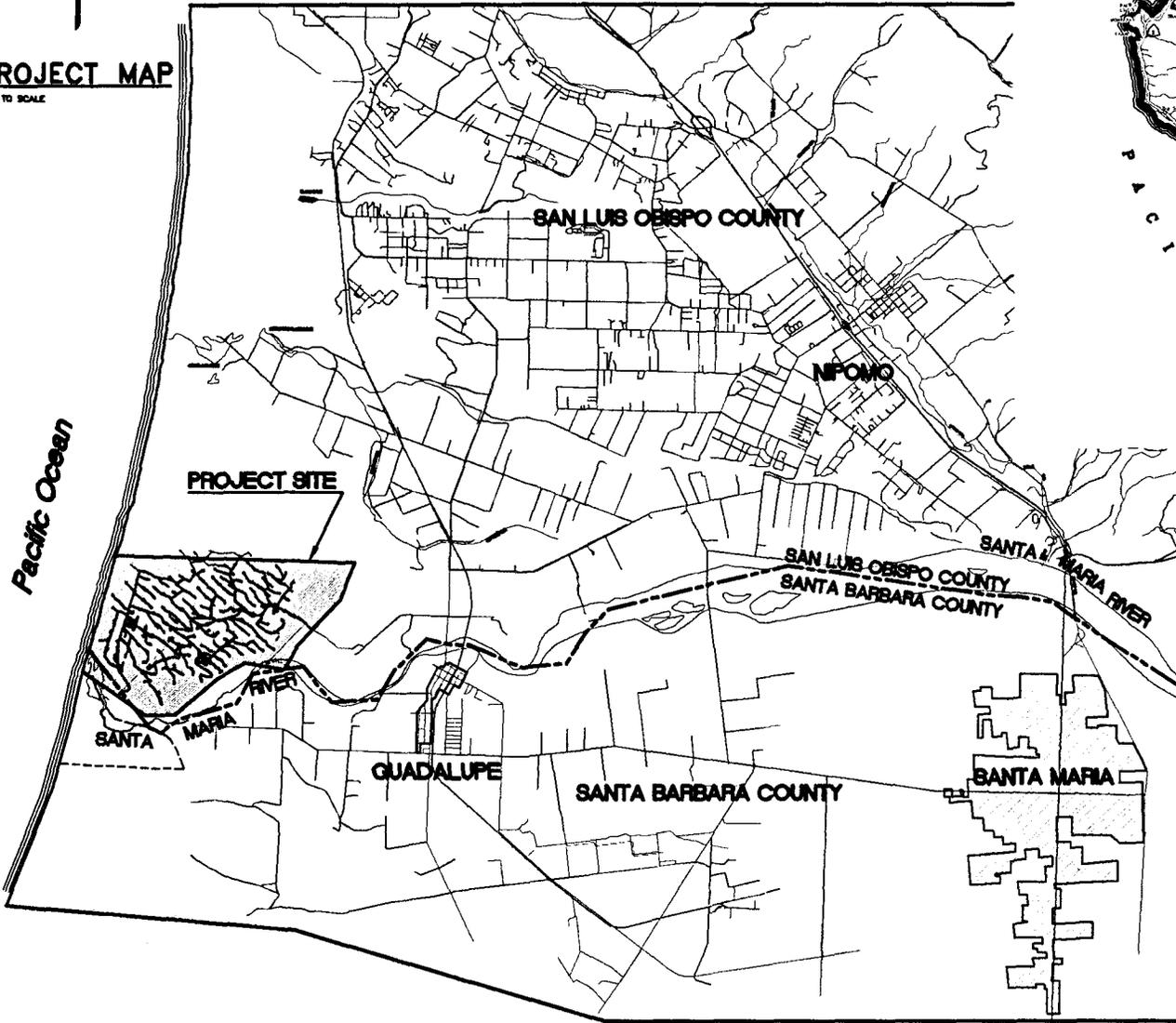
### Guadalupe Cleanup and Abandonment Project

- |                   |   |
|-------------------|---|
| <b>Exhibit 1</b>  | Guadalupe Oil Field Location Map                                      |
| <b>Exhibit 2</b>  | Site-wide Plume Map   |
| <b>Exhibit 3</b>  | Site-wide Map of Plumes and Sumps                                     |
| <b>Exhibit 4</b>  | Coastal Commission Permit Jurisdiction Map                            |
| <b>Exhibit 5</b>  | Map of Past Beach Projects  |
| <b>Exhibit 6</b>  | Regional Water Quality Control Board Cleanup or Abatement Order 98-38 |
| <b>Exhibit 7</b>  | Natural Resource Damage Assessment Settlement Agreement               |
| <b>Exhibit 8</b>  | County of San Luis Obispo CDP/DP D890558D Conditions of Approval      |
| <b>Exhibit 9</b>  | Executive Summary of 5X and A2A North PCB Report                      |
| <b>Exhibit 10</b> | Map of Proposed Beach Project   |
| <b>Exhibit 11</b> | Construction Schedule   |
| <b>Exhibit 12</b> | Environmentally Sensitive Habitat Map                                 |
| <b>Exhibit 13</b> | Sensitive Species Description   |
| <b>Exhibit 14</b> | 5X Sheetpile Wall Monitoring Report                                   |
| <b>Exhibit 15</b> | Offer to Dedicate Document Nos. 23795 and 23796                       |
| <b>Exhibit 16</b> | Indemnity Agreement   |



# PROJECT MAP

NOT TO SCALE



# AREA MAP

NOT TO SCALE

**Garmon ASSOCIATES**  
ENGINEERS  
PLANNERS  
SURVEYORS  
364 Pacific Street  
San Jose, CA 95128  
(408) 944-7407

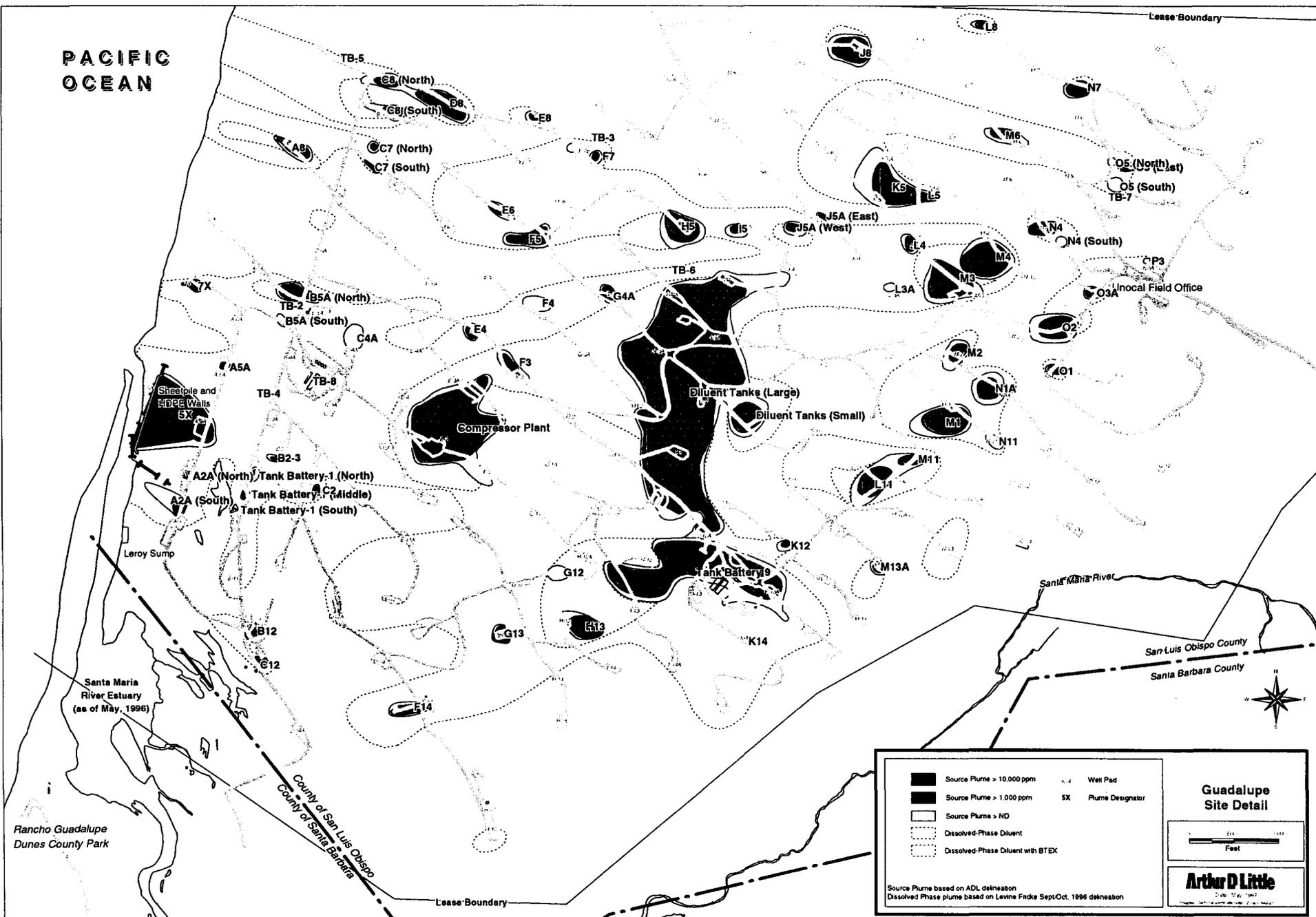
AREA & VICINITY MAP  
FORMER GUADALUPE OIL FIELD  
UNOCAL  
UNOCAL  
FIGURE 1

FILE: F:\PROJ\1994\19402028\MECH\DWG\EXHIBITS\WCH-MAP.DWG LAST EDITED: 08-20-99 @ 10:25

EXHIBIT 1 E-99-009



PACIFIC OCEAN



	Source Plume > 10,000 ppm		Well Pad
	Source Plume > 1,000 ppm		Plume Designator
	Source Plume > ND		
	Dissolved-Phase Diluent		
	Dissolved-Phase Diluent with BTEX		

Source Plume based on ADL delineation  
Dissolved Phase plume based on Levine Ficke Sept/Oct. 1996 delineation

**Guadalupe Site Detail**

Scale: 0 to 1000 Feet

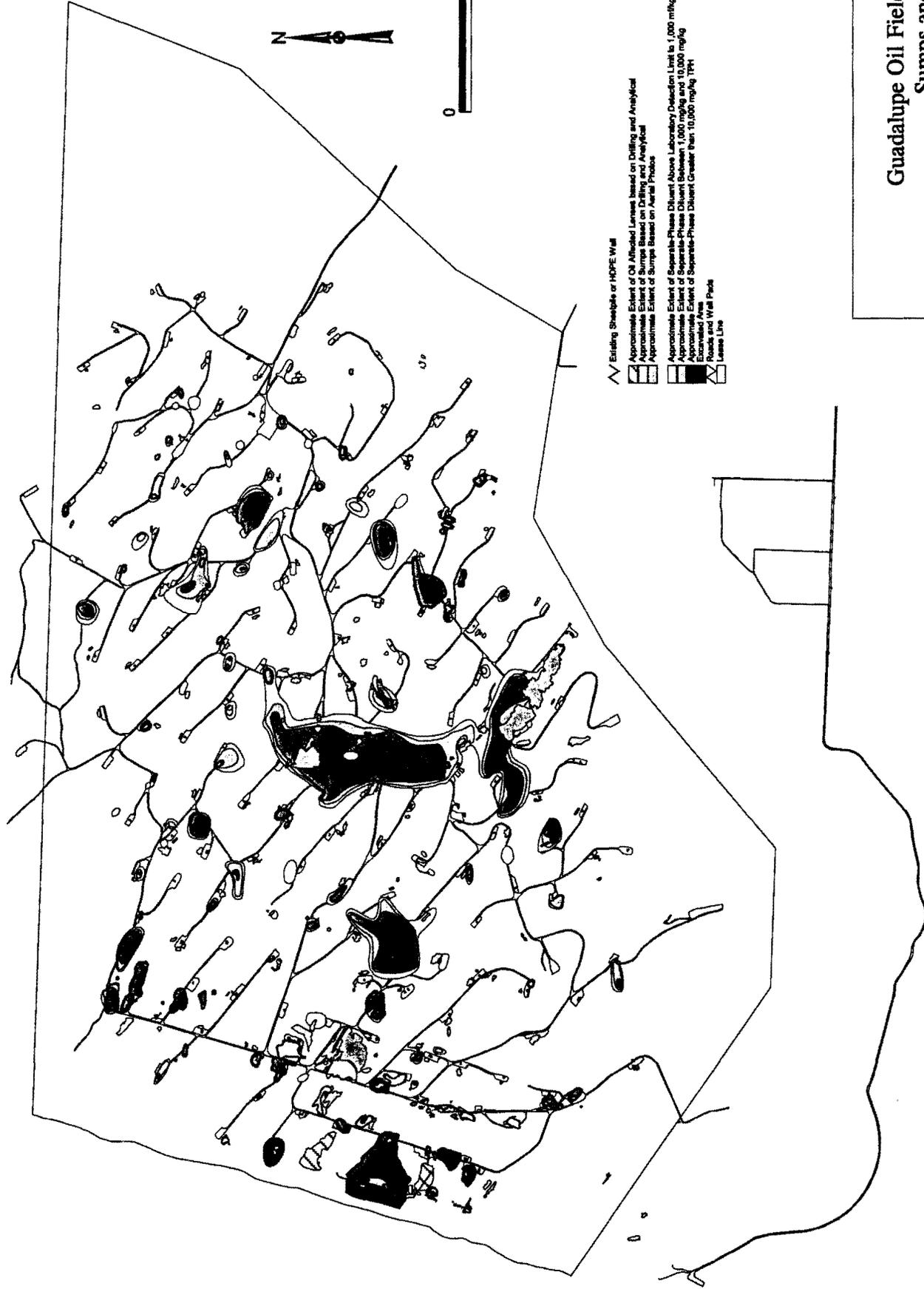
**Arthur D Little**  
Date: May 1997





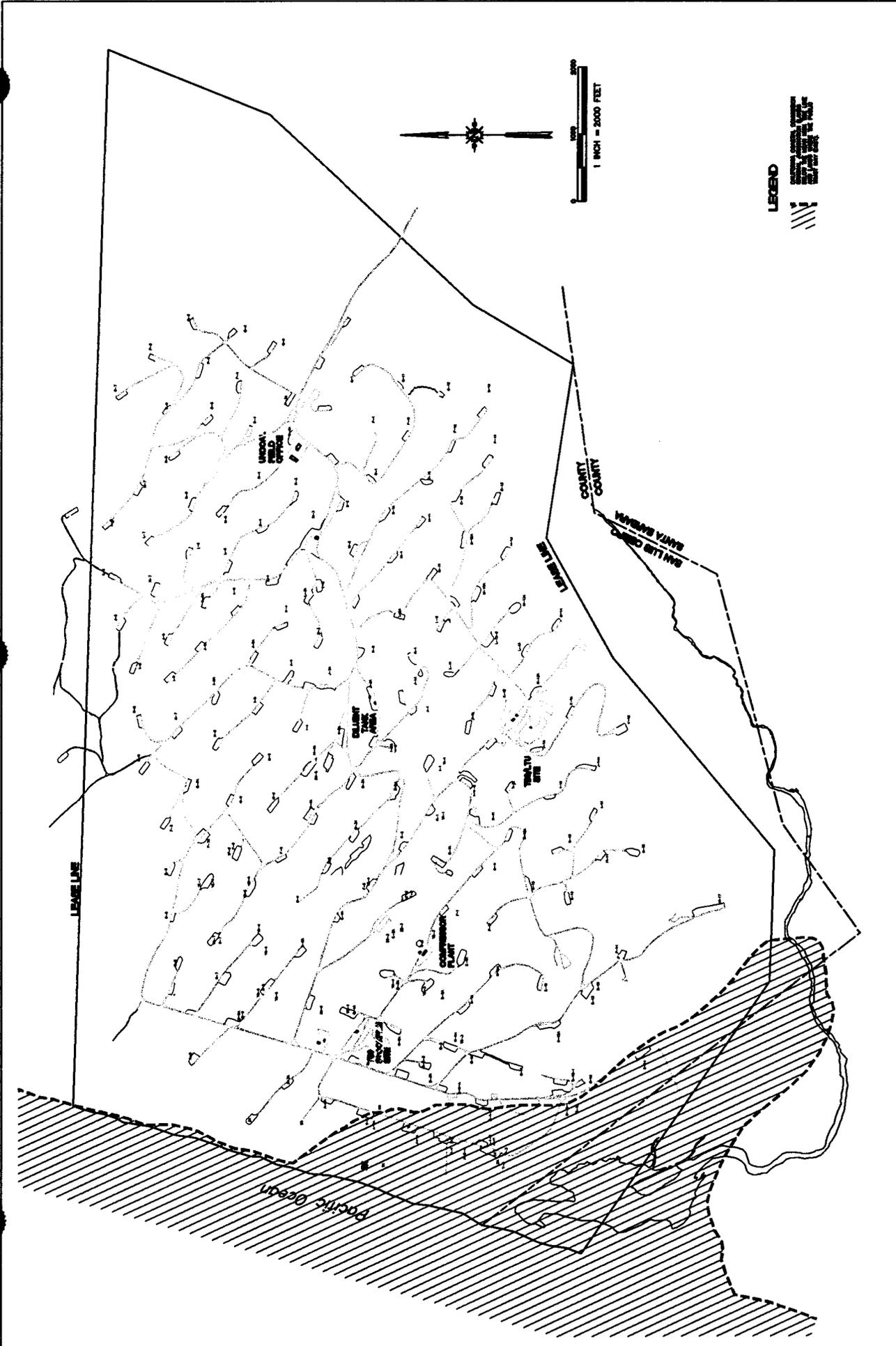
# Guadalupe Oil Field Sumps and Separate-Phase Diluent Plumes

2000 Feet



- Existing Sumps or HDPE Wall
- Approximate Extent of Oil Affected Leases based on Drilling and Analytical
- Approximate Extent of Sumps based on Drilling and Analytical
- Approximate Extent of Sumps based on Aerial Photos
- Approximate Extent of Separate-Phase Diluent Above Laboratory Detection Levels (1,000 mg/g TPH)
- Approximate Extent of Separate-Phase Diluent Above 1,000 mg/g and 10,000 mg/g TPH
- Approximate Extent of Separate-Phase Diluent Greater than 10,000 mg/g TPH
- Excavated Area
- Roads and Well Paths
- Lease Line





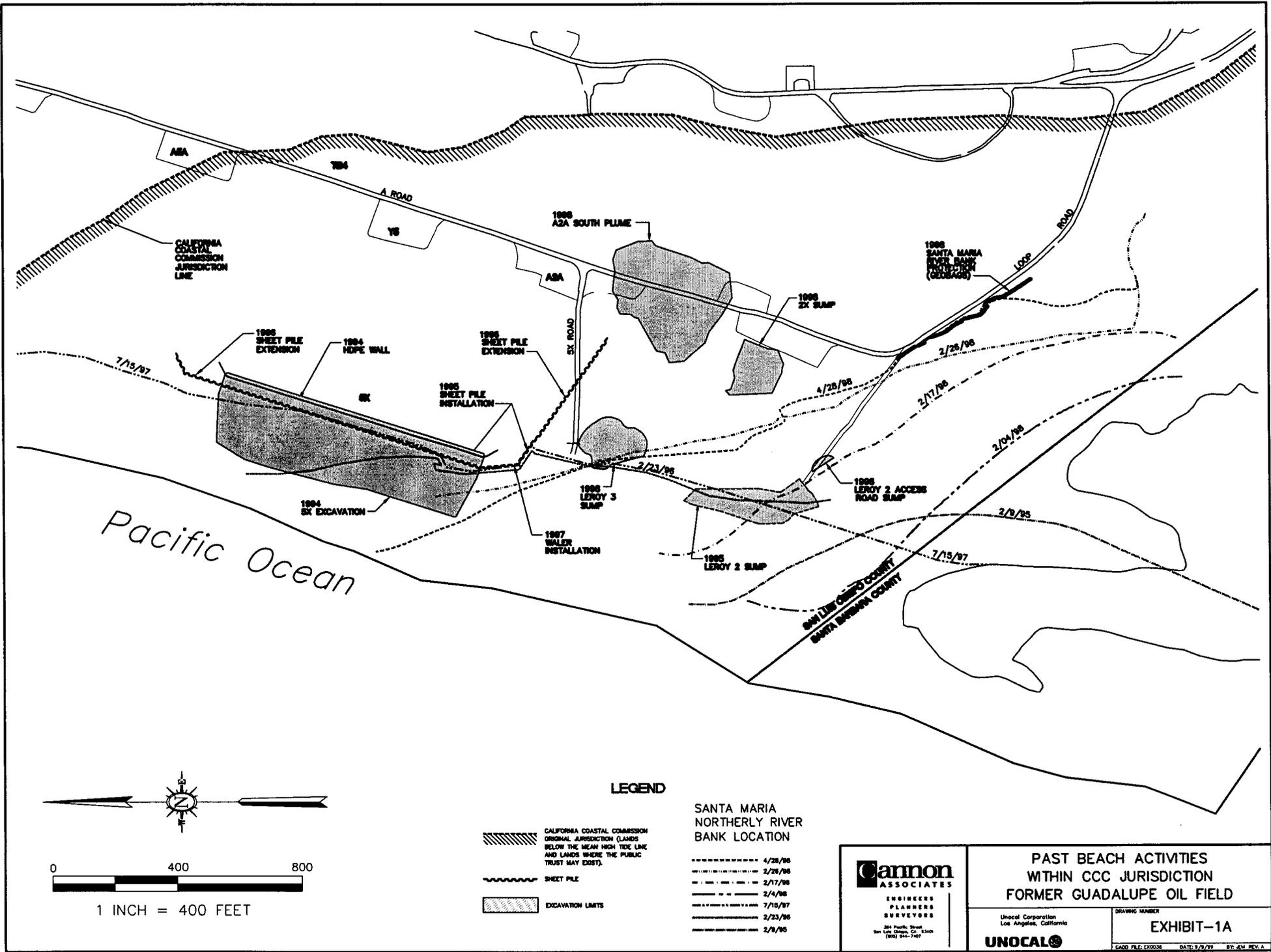
LEGEND



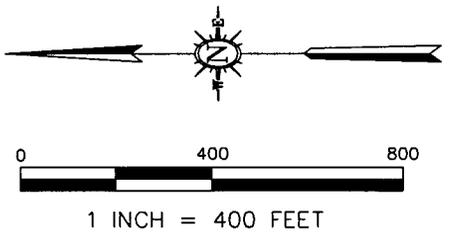
<p>ammon ASSOCIATES ENGINEERS GEOLOGISTS SURVEYORS GEOCHEMISTS</p>	<p>SITE PLAN COASTAL COMMISSION JURISDICTION FORMER GUADALUPE OIL FIELD</p>
	<p>UNOCAL</p>

FIGURE 2





Pacific Ocean



LEGEND

- CALIFORNIA COASTAL COMMISSION ORIGINAL JURISDICTION (LANDS BELOW THE MEAN HIGH TIDE LINE AND LANDS WHERE THE PUBLIC TRUST MAY EXIST).
- SHEET PILE
- EXCAVATION LIMITS
- 4/28/96
- 2/26/96
- 2/17/96
- 2/4/96
- 7/15/97
- 2/23/96
- 2/9/95

SANTA MARIA  
NORTHERLY RIVER  
BANK LOCATION

<p style="font-size: small; margin: 0;">ENGINEERS PLANNERS SURVEYORS</p> <p style="font-size: x-small; margin: 0;">281 Pacific Street San Luis Obispo, CA 93401 (805) 964-7407</p>	<p><b>PAST BEACH ACTIVITIES WITHIN CCC JURISDICTION FORMER GUADALUPE OIL FIELD</b></p>	
	<p style="font-size: small;">Unocal Corporation Los Angeles, California</p> <p style="font-weight: bold; font-size: small;">UNOCAL</p>	<p style="font-size: x-small;">DRAWING NUMBER</p> <p style="font-weight: bold; font-size: small;">EXHIBIT-1A</p> <p style="font-size: x-small;">CADD FILE: EX0036 DATE: 9/2/99 BY: JEM REV. A</p>





# California Regional Water Quality Control Board

## Central Coast Region



**Peter M. Rooney**  
Secretary for  
Environmental  
Protection

Internet Address: <http://www.swrcb.ca.gov>  
81 Higuera Street, Suite 200, San Luis Obispo, California 93401-5427  
Phone (805) 549-3147 • FAX (805) 543-0397

**Pete Wilson**  
Governor

November 6, 1998

EXHIBIT 6 E-99-009  
CERTIFIED MAIL  
P 241 242 293

Mr. Paul T. West, General Manager  
California Operating Services  
Union Oil Company of California  
3201 Airpark Drive, #104  
Santa Maria, CA 93455

RECEIVED  
NOV 10 1998

CALIFORNIA  
COASTAL COMMISSION

Dear Mr. West:

### UNOCAL GUADALUPE OIL FIELD; TRANSMITTAL OF CLEANUP OR ABATEMENT ORDER NO. 98-38

This letter transmits Cleanup or Abatement Order No. 98-38, as amended November 6, 1998. The changes include addition of Finding 16, revision of the excavation schedule, and addition of several sumps in the southeast corner of the oil field to the list of required excavations. The Order is effective immediately.

If you have any questions, please call Harvey Packard at (805) 542-4639 or Eric Gobler at (805) 549-3467.

Sincerely,

Roger W. Briggs  
Executive Officer

Attachment: Order No. 98-38

cc: Guadalupe Correspondence List

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**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL COAST REGION  
81 Higuera Street, Suite 200  
San Luis Obispo, California 93401-5427**

**CLEANUP OR ABATEMENT ORDER NO. 98-38**

**Concerning**

**Union Oil Company of California  
at  
Guadalupe Oil Field  
San Luis Obispo County**

Amended November 6, 1998

The California Regional Water Quality Control Board, Central Coast Region (hereafter "Board"), finds:

1. Union Oil Company of California, a California corporation (dba UNOCAL), has discharged petroleum to waters of the state at the Guadalupe Oil Field (hereafter "Field"). The Field covers over 2,300 acres within the Nipomo Dunes system in southern San Luis Obispo County and northern Santa Barbara County, about three miles west of the City of Guadalupe.
2. Discharge of petroleum and its chemical constituents into waters of the state is a violation of a prohibition contained in the Water Quality Control Plan, Central Coast Basin (hereafter "Basin Plan"), and creates, or threatens to create, a condition of pollution or nuisance.
3. Eugene R. LeRoy Trust and Andre LeRoy Trust own the property located at the far southwestern corner of San Luis Obispo County, assessor's parcel numbers 92-051-02, 92-041-001, 003, 004, 005 and 006, which they lease to UNOCAL pursuant to a written lease. UNOCAL operated the Field from 1951 to 1994. In addition to oil wells and pipelines, site infrastructure included tank batteries, surface impoundments, steam generators, weigh meter stations, a gas-compressor plant, roads, and electric power distribution equipment. UNOCAL's oil-producing operations ceased in 1994, and the Field is being prepared for abandonment.
4. Crude oil produced at the Field was extremely viscous, behaving like molasses in ambient conditions. UNOCAL used several methods to enhance oil recovery, including diluent mixing. Diluent is a refined petroleum product, similar in chemical composition to a mixture of diesel and kerosene. UNOCAL also used a minor amount of light crude oil trucked from nearby oil fields as a diluent. Diluent, other petroleum products and Field-related materials when improperly discharged or released resulted in pollution.
5. UNOCAL constructed and operated a diluent-distribution system, comprising storage tanks, pumps, and pipelines, throughout the Field. During Field operation, leaks developed in diluent pipes, pumps, and tanks, and spills occurred on the ground surface at many locations. Estimates of diluent amounts discharged or released to the environment (soil and water) range to over 8.5 million gallons.
6. Diluent released at the ground surface or in the near subsurface migrates quickly through the Field's sandy soils until reaching the water table. Where sufficient quantity was released, pools of floating diluent were formed on ground water.

7. The depth to ground water varies across the Field, depending on the height of the dunes. The first water-bearing unit, known as the dune sand aquifer, consists of medium sands and is approximately 10-feet thick. The dune sand aquifer is underlain by the confining unit, which consists of interbedded clays, silts, and sands and is approximately 100-feet thick. Underlying the confining unit is the principal aquifer, a major water supply source, consisting of coarse sand and gravel.
8. Surface-waterbodies on or bordering the Field include the Santa Maria River, the Santa Maria River Estuary, the Pacific Ocean, dune slack pools, and fresh-water marsh ponds A, B, and C. Attachment A identifies various surface-waterbodies in and around the Field.
9. UNOCAL and state agencies are assessing soil and ground water conditions and have found more than 90 locations where diluent is found in soil at the ground water table. Of these more than 90 locations, at least four are very large plumes, each containing more than a million gallons of diluent, where diluent accumulates in monitoring wells at thicknesses of up to five feet. Diluent plumes dissolved in ground water extend from each location where diluent has accumulated at the water table. Diluent in ground water has been measured at concentrations up to 30 mg/L at locations across the Field. Diluent in soil samples has been measured at concentrations up to 170,000 mg/kg.
10. Pursuant to the Basin Plan, beneficial uses of ground water beneath the Field include municipal and domestic supply, agricultural supply, and industrial service supply. Beneficial uses of the Santa Maria River include municipal and domestic supply; agricultural supply; industrial service supply; ground water recharge; water contact recreation; non-contact water recreation; wildlife habitat; cold fresh water habitat; warm fresh water habitat; migration of aquatic organisms; rare, threatened or endangered species; fresh water replenishment; and commercial and sport fishing. Beneficial uses of the Santa Maria River Estuary include ground water recharge; water contact recreation; non-contact water recreation; wildlife habitat; warm fresh water habitat; migration of aquatic organisms; spawning, reproduction, and/or early development; preservation of biological habitats of special significance; rare, threatened or endangered species; estuarine habitat; fresh water replenishment; commercial and sport fishing; and shellfish harvesting. Beneficial uses of the dune slack ponds and fresh-water marsh ponds include ground water recharge; water contact recreation; non-contact water recreation; wildlife habitat; warm fresh water habitat; spawning, reproduction, and/or early development; rare, threatened or endangered species; and commercial and sport fishing.
11. Pursuant to the Basin Plan, ground waters shall not contain taste or odor producing substances in concentrations that adversely affect beneficial uses.
12. Pursuant to the Basin Plan, inland surface waters, enclosed bays, and estuaries shall be maintained free of toxic substances in concentrations that are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life.
13. Pursuant to the California Ocean Plan, beneficial uses of the ocean waters of the state include industrial water supply; water contact recreation; non-contact water recreation, including aesthetic enjoyment; navigation; commercial and sport fishing; mariculture; preservation and enhancement of Areas of Special Biological Significance; rare and endangered species; marine habitat; fish migration; fish spawning; and shellfish harvesting.
14. Pursuant to Water Code Section 13304 and State Water Resources Control Board ("State Board") Resolution No. 92-49, cleanup is required when pollutants are discharged and affect waters of the state.

15. Dissolved diluent can be transported in ground water and discharged to surface water. Diluent has been detected in surface-water bodies, including marsh ponds A, B, and C, the Santa Maria River, the Pacific Ocean, and the L11, M11, and P1 dune-slack pools, at concentrations up to 1.5 mg/L. Attachment B locates numerous areas impacted by Field releases, including all areas to be addressed in Phase I cleanup.
16. Sumps are low-lying areas or depressions, natural or man made, that were used for storage and disposal of oil-field wastes. Crude oil, drilling mud, produced water, and concrete were deposited in sumps at the Field. UNOCAL has identified over 150 potential sumps at the Field, and is in the process of characterizing the threat to water quality posed by them. Several sumps in the southwest corner of the Field are known to be in contact with ground water or are located in areas at risk for erosion by the ocean or Santa Maria River.
17. In addition to petroleum pollution at the Field, there are present or may be present other non-diluent contaminants, including, but not limited to, metals, polycyclic aromatic hydrocarbons, volatile organic compounds, and semi-volatile organic compounds, resulting from UNOCAL's activities. Areas of the Field that will be disturbed by excavation or other activities require characterization with respect to these non-diluent contaminants before disturbance.
18. UNOCAL acknowledges its responsibility for Field-related pollutant discharges, is investigating the Field to determine pollution location and extent, has proposed a Field remediation project, and has agreed to the project described in this Order.
19. For the purposes of this Order, biosparging is defined as a process where air is introduced using blowers to the subsurface below the water table to promote the growth of aerobic microorganisms that will degrade dissolved diluent. Biosparging can be accomplished continuously or in a pulsed fashion through vertical or horizontal wells.
20. For the purposes of this Order, remediation by natural attenuation is defined as the natural physical, chemical, and biological processes that have a combined effect to reduce pollution concentration and mass. Remediation by natural attenuation is evaluated using measurements of pollution concentrations and other chemicals that indicate the amount and rate of any attenuation that is occurring.
21. For the purposes of this Order, active free-product removal by dual-pump extraction is defined as the process involving installing vertical extraction wells and pumping ground water with a submersible pump. A ground-water pump is placed at the bottom of the well. An oil-skimming pump is placed at the top of the liquid in the well. Dual-pump recovery provides both migration control and removal of free-phase diluent.
22. The proposed Order requires excavation of several areas with separate-phase diluent contamination. Soils excavated from these areas will be treated to remove petroleum before being used as backfill at other areas. Two methods will be used for soil treatment: thermal desorption and landfarming. Thermal desorption involves removing the petroleum from the soil by application of heat in a thermal desorption unit, powered by natural gas. Landfarming refers to a process where petroleum is removed from the soil by biological action. Contaminated soil will be placed in a treatment area, water and nutrients will be added, and the soil will be tilled to introduce oxygen. Landfarming will be conducted at Tank Battery 9.
23. The Field is a unique site. It is very large, over 2,300 acres, and as part of the Nipomo Dunes ecosystem contains many valuable biological resources. There are millions of gallons of dissolved-phase, separate-phase and free-phase diluent in underlying ground water and soils. Diluent and other pollutants have affected both ground water and surface water. The Final Environment Impact Report (defined in Finding No. 32)

confirms that even if the most aggressive cleanup approach were implemented at the site (excavation of all separate-phase diluent plumes) water quality objectives in the shallow dune sand aquifer would not be achieved for many decades.

24. Because the Field is a unique site, the Board will accept a phased approach to regulating site cleanup. The fundamental goals of this phased approach are to protect surface waters (including the Santa Maria River and Estuary, Pacific Ocean, ponds and wetlands), protect the principal aquifer from future degradation, and reverse the current trend of continuing pollution of the shallow dune sand aquifer.
25. This Order establishes requirements for remediation work during Phase I. The fundamental goals of Phase I are to: 1) get cleanup started right away; 2) focus first on eliminating discharges of diluent to surface water (river, ocean, wetlands); 3) control dissolved-phase plumes that are known to be affecting or are an imminent threat to surface water; 4) perform field-scale pilot tests to identify effective cleanup methods; 5) continue monitoring of pollution migration to the principal aquifer and surface waters, migration of free-phase diluent, cleanup effectiveness, resource impacts of cleanup work, and to gather other relevant information; and, 6) base future decisions on field experience.
26. Monitoring is a continuous process of periodic sampling throughout the Field. Monitoring is essential for both site characterization and remediation evaluation. Monitoring is needed over the long-term to assess water quality and other environmental impacts. It is also the means for detecting unexpected changes and new information that might require additional unanticipated cleanup action.
27. Site characterization is important to determine the degree of threat to surface water and regional water supply that is posed by the releases of diluent and other chemicals. Although a great deal of the dune sand aquifer investigation has been completed, more investigation is required to identify any impacts to the principal aquifer. Furthermore, assessment of discharges and threats to surface water is not complete. Site characterization work must be completed to identify the sources of diluent discharges to surface and ground water, and to assess non-diluent contamination. Site characterization information is needed to help select and design remediation methods.
28. The Board will consider subsequent orders to cover subsequent phases of remediation. Adoption of cleanup levels and requirements for the remediation of the rest of the Field are being deferred for reasons including the following: 1) site characterization and assessment are not complete (possible diluent impacts to the principal aquifer and the sources of diluent discharges to surface water are examples of phenomena still being investigated); 2) information from pilot testing to be conducted in Phase I is not yet available; 3) information regarding impacts of the cleanup process on natural resources can be best determined after field work is underway and is not yet available; and, 4) effectiveness of cleanup work to be implemented in Phase I can be best determined after the work is done. As the Board continues to learn more about the Field, and as experience and knowledge are gained through pilot testing and implementation of this first cleanup phase, the Board will have a better understanding of what will work best for site cleanup. Future decisions regarding remediation methods, cleanup levels and site locations not covered by Phase I work will be made as work proceeds and as knowledge and understanding increase.
29. At locations included in Phase I where the cleanup actions required by this Order do not meet the goals of Phase I, the Board may adopt subsequent orders to require additional cleanup. Subsequent orders may require additional cleanup as knowledge and understanding of the Field and contamination assessment increase.

30. The Board anticipates that UNOCAL will perform pilot studies to assist in evaluation of remediation methods. This Order sets forth a process for selecting and evaluating pilot studies. However, it does not approve or require implementation of any specific pilot studies.
31. Because timely complete permit applications are important for commencement of remediation work by Fall 1998, this Order requires UNOCAL to submit a comprehensive permit application plan.
32. High rainfall levels and releases from Twitchell Reservoir during early 1998 resulted in discharges of petroleum products and possibly other wastes from Field sumps to the river and ocean. Future wet-weather conditions could result in additional discharge of Field pollutants. In February and March 1998, UNOCAL implemented an emergency response to limit additional discharges. Part of this emergency response was the excavation of plume A2A South. This Order contains requirements for UNOCAL to identify all oil-field sumps and other waste management units and to remove sumps and other waste management units in a specified area where they pose a high risk of discharge to surface water, and to take responsibility to prevent similar discharges in the future.
33. The County of San Luis Obispo has prepared a Final Environmental Impact Report (FEIR) that evaluates UNOCAL's proposed Field remediation project along with various alternatives. The County, as lead agency, certified the FEIR on March 26, 1998. The Board, as a responsible agency, adopted Resolution No. 98-04 that contains findings of changes in the project to mitigate significant environmental impacts of Phase I remediation work and a mitigation monitoring plan. These findings are limited to the portion of the project approved by the Board and to mitigation measures that are within the Board's jurisdiction.

IT IS HEREBY ORDERED, pursuant to sections 13267 and 13304 of the California Water Code, that UNOCAL, its agents or assigns, shall remove free product and clean up degraded soil and ground water underlying the Guadalupe Oil Field, as follows:

I. Phase I - Soil and Ground Water Cleanup

A. Excavation

1. The following excavation work shall commence by the date specified and shall continue without interruption until the Executive Officer determines that the excavation work has complied with the excavation standards specified in Ordering Paragraph I.A.2., below:
  - a) Plume areas M4 (partial) and L11 (partial): UNOCAL shall commence excavation of separate-phase diluent by fourth quarter 1998, and shall complete excavation in fourth quarter 1999.
  - b) Plume areas 5X and A2A N: UNOCAL shall commence excavation of separate-phase diluent by fourth quarter 1999, and shall complete excavation in fourth quarter 2000.
  - c) Plume areas B12, C12, TB1, and M2: UNOCAL shall commence excavation of separate-phase diluent by second quarter 2000, and shall complete excavation in fourth quarter 2000.
  - d) Plume areas A5A and C8: UNOCAL shall commence excavation of separate-phase diluent by fourth quarter 2000, and shall complete excavation in first quarter 2001.

- e) Plume areas B2-3 and N12: UNOCAL shall commence excavation of separate-phase diluent by second quarter 2001, and shall complete excavation in third quarter 2001.
- f) Plume areas C7 S and B6: UNOCAL shall commence excavation of separate-phase diluent by fourth quarter 2001, and shall complete excavation in second quarter 2002.
- g) Plume Area C2: If it is determined that excavation is required after TB1 excavations are complete, UNOCAL shall commence excavation of separate-phase diluent at C2 by fourth quarter 2001, and shall complete excavation in second quarter 2002.

Note: Temporary interruption may be approved by the Executive Officer in advance or pursuant to the requirements for authorizing unavoidable delays as described in Ordering Paragraph X., below.

- 2. Excavation of a specific plume will be considered complete when the following criteria have been met and backfilling is complete:
  - a) The mean concentration of soil samples collected at the bottom of the excavation shall not exceed 700 mg/kg total petroleum hydrocarbons. Concentrations of no more than 5% of samples collected at the bottom of the excavation shall exceed 1,000 mg/kg total petroleum hydrocarbons.
  - b) Sheet pile shall be installed at least 15 feet outside the 1,000-mg/kg TPH contour as interpreted using data collected from soil borings. In exception to this criterion, sheet pile for plumes C12, C8N, B6, M2 and TB1S shall be installed approximately five to ten feet outside the 1,000 mg/kg TPH contour on one side of each plume. The exact limits of sheet pile placement under the exception for C12, C8N, B6, M2 and TB1S shall be approved by the Executive Officer based on field information.
  - c) Samples of the excavation bottom shall be collected at 25-foot centers, or as directed in the field by Board staff.
  - d) If concentrations in more than 5% of samples collected at the bottom of the excavation exceed 1,000 mg/kg total petroleum hydrocarbons after UNOCAL has removed as much degraded soil as reasonably practicable, the Executive Officer, with the advice of other interested agencies, will decide if further excavation or other cleanup actions must be conducted, or if the excavation may be backfilled. The Executive Officer will decide within a reasonable time taking into account, among other things, project efficiencies.
  - e) All Field-related sump material encountered in diluent-plume excavations shall be removed and properly disposed.
  - f) Compounds designed to enhance biological degradation of remaining hydrocarbons, including nutrients and other appropriate additives, shall be added to excavations before backfilling. The amounts and types of such compounds to be added shall be determined on a general site-wide basis by UNOCAL and approved by Board staff before October 1, 1998.
  - g) UNOCAL shall conduct post-excavation ground-water monitoring. Monitoring wells destroyed due to the excavation shall be replaced if the

Executive Officer determines they are needed to establish a sufficient monitoring network.

- h) The intent of these criteria is to require excavations that will successfully stop discharges of diluent to surface water within a short time frame with as little impact as possible to adjacent areas and resources. These criteria are not final cleanup levels. After excavation, the Board may require evidence that natural degradation of remaining hydrocarbons is occurring, especially in instances where hydrocarbons at concentrations exceeding 700 mg/kg TPH were left in place. No further excavation shall be required in any area that has been excavated in compliance with these excavation standards except in those areas where only partial excavation has been required (e.g., L11 and M4).
3. UNOCAL shall meet the following milestones with respect to excavation at the 5X plume:
- a) By June 1, 1998, UNOCAL shall submit a plan to complete characterization of the vertical and lateral extent of degradation. The plan shall also propose sampling for non-diluent compounds to comply with paragraph I.A.5, below.
  - b) By August 1, 1998, UNOCAL shall submit an interim report detailing prospective sources of sand backfill and sheetpile, and the status of Unocal's efforts to procure the sand and sheetpile necessary to begin excavation in fourth quarter 1999.
  - c) By October 1, 1998, UNOCAL shall commence assessment work in accordance with the assessment plan, as approved or modified by the Executive Officer.
  - d) By December 31, 1998, UNOCAL shall submit a report of the results of the assessment.
  - e) By April 1, 1999, UNOCAL shall submit a draft excavation engineering plan. In addition to any other elements necessary to implement the project, this plan shall include a sand budget and stockpiling plan, a permitting plan, a treatment plan including air-pollution considerations, and a sheet pile plan.
4. UNOCAL shall submit to the Board an excavation engineering plan at least 45 days prior to commencing excavation at any location.
5. Before commencing excavation or other soil disturbance at any location, UNOCAL shall submit a plan to the Board to characterize the overburden, affected soils, and ground water for the presence of non-diluent contaminants, including, but not limited to, Title 22 metals, polycyclic aromatic hydrocarbons, volatile organic compounds, and semi-volatile organic compounds, at that location. The Executive Officer, with assistance of other agencies as required, shall review and approve the plan before it is implemented. The plan shall be implemented to the satisfaction of the Executive Officer before any soil disturbance occurs.

B. Biosparging

- 1. Biosparging systems shall be installed and in operation at the following sites by March 31, 1999, or as soon after that date as excavation activities allow: TB8, M4, and L11.

2. A biosparging system shall be installed and in operation at plume area D8 by March 31, 2001, or as soon after that date as excavation activities allow.
3. Biosparging shall continue without interruption until authorized to cease by the Executive Officer. Temporary interruption may be authorized in advance by the Executive Officer or pursuant to the requirements for authorizing unavoidable delays (see Ordering Paragraph X., below).
4. By September 1, 1998, UNOCAL shall submit a proposed biosparging monitoring plan for consideration by the Executive Officer. Monitoring shall be implemented as directed by the Executive Officer.

C. Remediation by Natural Attenuation

1. UNOCAL shall monitor and evaluate natural attenuation of diluent at C2A, F14, M11, M13A, and TB9 S. Monitoring data shall be reported in regular monitoring reports, as required by Ordering Paragraph IV., below.
2. By September 1, 1998, UNOCAL shall submit a natural attenuation monitoring plan for consideration by the Executive Officer. Monitoring shall be implemented as directed by the Executive Officer.

D. Active Free-Product Recovery

1. Compressor Plant: UNOCAL shall install and begin operation of at least five dual-pump product-recovery wells at the leading edge of the free-phase plume by March 31, 1999.
2. Diluent Tanks: UNOCAL shall install and begin operation of at least eight dual-pump product-recovery wells at the center of the free-phase plume by March 31, 1999.
3. TB 9: UNOCAL shall install and begin operation of at least five dual-pump product-recovery wells at the leading edge of the free-phase plume by March 31, 1999.
4. Active free-product recovery shall continue without interruption until authorized by the Executive Officer. Temporary interruption may be authorized in advance by the Executive Officer or pursuant to the requirements for authorizing unavoidable delays (see Ordering Paragraph X., below).
5. By July 1, 1998, UNOCAL shall submit an active free-product recovery monitoring plan for consideration by the Executive Officer. Monitoring shall be implemented as directed by the Executive Officer.

E. Passive Free-Product Recovery

1. By July 1, 1998, UNOCAL shall begin recovery of free product by passive skimming, bailing, or another method from existing monitoring wells that contain at least one-eighth of an inch of product. Such recovery shall occur at the following locations, at a minimum: compressor plant, diluent tanks, E6, F5, G4A, H13, H5, I5, J5A W, J8, K5, M1, M3, N1A, N4, N7, and TB 9.
2. Passive free-product recovery shall continue without interruption until authorized by the Executive Officer or until the thickness of floating product in the well is less than one-eighth of an inch. While conducting tests of product-recovery technologies, UNOCAL may interrupt recovery at specific wells if static conditions at those wells are required to determine the effectiveness of the technology being tested. Other

temporary interruptions may be authorized in advance by the Executive Officer or pursuant to the requirements for authorizing unavoidable delays (see Ordering Paragraph X. below).

3. By June 1, 1998, UNOCAL shall submit a passive free-product recovery implementation and monitoring plan for consideration by the Executive Officer. Recovery and monitoring shall be implemented as directed by the Executive Officer.

F. Other Cleanup Activities

1. Plume Area A8: UNOCAL shall adequately characterize separate and dissolved-phase plumes to the satisfaction of the Executive Officer by October 1, 1998. If this characterization shows there is no discharge of diluent to surface water, UNOCAL shall implement remediation by natural attenuation. Otherwise, UNOCAL shall implement active control of dissolved diluent by a method acceptable to the Executive Officer by March 1, 1999.
2. Plume Areas B5A N, C7 N, C7 SE, P13: UNOCAL shall adequately characterize separate-phase plumes by March 1, 1999, and submit cleanup plans to the Board by October 1, 1999.
3. Plume Area O13: UNOCAL shall adequately characterize separate-phase and dissolved diluent to the satisfaction of the Executive Officer by December 15, 1998, and submit a cleanup plan to the Board by March 1, 1999.
4. Plume Area B11: UNOCAL shall adequately characterize the separate-phase diluent plume to the satisfaction of the Executive Officer by March 1, 1999. If characterization indicates a threat to surface water, either excavation or biosparging shall be implemented. Associated cleanup shall begin by October 1, 2000, and shall continue without interruption until authorized by the Executive Officer. Temporary interruption may be authorized in advance by the Executive Officer or pursuant to the requirements for authorizing unavoidable delays (see Ordering Paragraph X., below).
5. The results of characterization activities, including recommended actions, shall be reported to the Executive Officer by UNOCAL no later than the dates identified in F.1, F.2, and F.3, above.

G. Protection of B12 and C12 Plumes from River Erosion

1. By November 30, 1998, Unocal shall submit to the Executive Officer for review and approval a contingency plan for protecting the diluent plumes at B12 and C12 from erosion by the Santa Maria River. The plan shall detail the actions that Unocal will take if the B12 and C12 plumes are threatened by erosion. The measures specified in the plan shall be designed to allow rapid emergency implementation, and the plan shall be implemented upon verbal or written order of the Executive Officer.

II. Sumps and Other Waste Management Units

- A. UNOCAL shall submit to the Executive Officer by August 1, 1998, a report regarding all sumps and other waste management units (including but not limited to trenches, ditches or other areas where petroleum products or other oil-field waste were disposed or placed during oil-development and production operations) located on the site between the ocean and the "B" road, south of well-pad A8, and north of the river channel. This area is shown on the map attached to

this Order as Attachment C. The report must clearly locate each sump and waste management unit and determine the type, area and depth of waste placement. The report must propose action that will remove threats of discharge to surface water from these sumps and waste management units. UNOCAL shall remove or remediate any sumps or waste management units as directed by the Executive Officer. Removal and remediation work in accordance with a plan approved by the Executive Officer shall commence no later than Fall 1998.

- B. The plan submitted shall include a proposal to monitor and report waste removal activities (waste type, volume, handling, treatment and disposal). Quarterly monitoring reports shall be submitted to the Executive Officer according to Ordering Paragraph IV below.
- C. Unocal shall clean up sumps and waste management units as follows (sump areas referred to are as designated in Levine Fricke Recon's July 31, 1998, sump report):
1. Unocal shall commence excavation of sumps in areas 5X, LeRoy 3, LeRoy 6, A2A, A1/2X, and 8X by fourth quarter 1999 and shall complete excavation in fourth quarter 2000.
  2. Unocal shall commence excavation of sumps in areas B12, C12, B2/B2A, TB1, B1A, B11, D14, and A13X by second quarter 2000 and shall complete excavation in fourth quarter 2000.
  3. Unocal shall commence excavation of sumps in area A5 by fourth quarter 2000 and shall complete excavation in first quarter 2001.
  4. Unocal shall commence excavation of sumps in area B3/B3A by second quarter 2001 and shall complete excavation by third quarter 2001.
  5. Sump excavation shall be considered complete when the conditions described in Ordering Paragraph I.A.2 are met.
  6. If at any time before excavation of a sump listed in this paragraph Unocal shows to the satisfaction of the Executive Officer that excavation of such sump should not be required, excavation will not be required.
  7. Unocal shall completely assess any sumps known or suspected to be located within the planned disturbed areas of any cleanup action taken in connection with this Order. If the Executive Officer determines that any such sump is degrading or threatening to degrade water quality, Unocal shall clean up or mitigate the effects of the sump to the satisfaction of the Executive Officer in conjunction with the planned disturbance.

### III. Cleanup Schedule Changes

- A. Unocal may, with approval of the Executive Officer, begin any cleanup action required in this Order before the date specified in this Order.

### IV. Permit Application

- A. UNOCAL shall submit a comprehensive permit application plan to the Board by May 1, 1998. This plan shall list all local, state and federal permits that UNOCAL must or may have to acquire to begin implementing remediation work within the times required by this Order. The plan shall list the date by which UNOCAL will apply for each permit. UNOCAL shall apply for permits in accordance with this plan.

- B. UNOCAL shall timely apply for all permits as necessary to complete, and so as not to delay, actions directed by this Order to be commenced in Fall 1998.
- C. UNOCAL shall make good-faith efforts to obtain any other permits required to commence the actions required in this Order by the dates specified in this Order.

V. Monitoring and Reporting

- A. Quarterly, UNOCAL shall submit to the Board reports of completed cleanup activities and routine monitoring, including implementation of mitigation measures specified in Resolution No. 98-04. The reports shall detail the actions taken, sampling results, amounts of petroleum removed, the disposition of materials removed, and recommendations for additional actions based on data collected during the reporting period. Reports shall be submitted by the first day of the second month following the end of the quarter (i.e., 1st Quarter Report [Jan-Mar] is due by May 1; 2nd Quarter Report [Apr-Jun] is due by August 1; 3rd Quarter Report [Jul-Sep] is due November 1; and, 4th Quarter Report [Oct-Dec] is due by February 1).
- B. UNOCAL shall comply with Levine Fricke Recon's February 20, 1998, "Water Monitoring Plan," as amended and approved by the Executive Officer, including the associated quarterly monitoring. The plan is hereby incorporated by reference.
- C. UNOCAL shall submit Phase I soil and ground-water monitoring data and reports as required by Ordering Paragraphs I., II., and III., above.
- D. The Executive Officer may request reasonable changes to the Water Monitoring Plan, based on review of collected data, new site-characterization information or a change in Field conditions. The current mediation process may be used (if it exists) to guide monitoring changes.

VI. Soil Management Plan

- A. UNOCAL has proposed to treat petroleum-affected soil using thermal desorption and landfarming at Tank Battery 9. Unless exempt from regulation under Title 23 California Code of Regulations Chapter 15 or Title 27 California Code of Regulations Division 2, UNOCAL shall apply for waste discharge requirements or a waiver of waste discharge requirements for landfarming and thermal desorption activities.
- B. Landfarming and thermal desorption activities shall conform with appropriate waste discharge requirements issued by the Board and any monitoring directed by the Executive Officer.

VII. Waste Disposal

- A. Wastes removed from the Field, including soil, petroleum, and water, shall be disposed of in accordance with all applicable laws and regulations.

VIII. Pilot Studies

- A. The goal of the pilot studies is to identify ways to remove separate-phase diluent without excavation.

- B. To facilitate the implementation of the pilot-test program, a panel of three experts (one chosen by UNOCAL, one by the Executive Officer, with those two picking a third) will be selected within 90 days of court approval of the settlement agreement. Concur, Inc., will act as facilitator for the panel discussions. If Concur does not accept this role, UNOCAL and the Executive Officer will select another facilitator that they both agree to.
- C. No more than three methods will be pilot tested in this first round in addition to the bioremediation and dual-phase pumping pilot tests UNOCAL is already doing or has agreed to do as part of the remediation process. As the first step in identifying the three remedial methods to be pilot tested, the panel will review UNOCAL's alternatives studies, (e.g., the Remedial Action Plan and the Feasibility Study), the FEIR (including UNOCAL's comments thereon), and available literature to identify methods of separate-phase diluent removal that are preferable to excavation on any basis. Within six months of the selection of the third member of the panel or as otherwise agreed by Unocal and the Executive Officer, the panel will rank each of the methods based upon effectiveness, cost, and short-term and long-term environmental impact and make a recommendation as to the three methods to be pilot tested. The Board and UNOCAL agree that steam/hot-water injection will be included among the methods to be considered by the panel.
- D. The Executive Officer will consider the panel's recommendations and tentatively select method(s) to be pilot tested. The Executive Officer will notify UNOCAL in writing of his tentative decision. If UNOCAL disagrees with the tentative selection, UNOCAL may invoke dispute resolution. Representatives of UNOCAL and the Board will meet and attempt to reach agreement, with the assistance of the facilitator identified in Ordering Paragraph VII.B., above. If there is no agreement within six months after the panel makes its recommendation or as otherwise agreed by the parties, the Executive Officer or Board will make the final decision regarding which pilot tests will be carried out. UNOCAL reserves whatever rights it has to appeal the Executive Officer's decision.
- E. UNOCAL, in consultation with Board staff, the panel of experts and the proponent of the method, will design the pilot study. The pilot study design must be acceptable to the Executive Officer.
- F. To the extent feasible, the proponent of the method will implement the pilot study and submit a report to UNOCAL, the panel of experts, and the Board, reporting the results of the pilot test. The panel of experts, with input from the Board and UNOCAL, will review the report and provide its recommendation regarding further actions based on the pilot study results within six month after receiving the pilot test report. The information obtained from the pilot studies and the panel's recommendation will be part of the record to be considered by the Board in accordance with State Board Resolution No. 92-49 (and subsequent amendments thereto) in making any decisions regarding Phase I remediation or subsequent remediation. UNOCAL reserves whatever rights it has to appeal a Board decision based in whole or in part on the results of the pilot studies.
- G. Further California Environmental Quality Act studies will not be required for any Board action regarding a pilot study unless required by California Environmental Quality Act Guidelines

Section 15162. The Board may make appropriate findings as required by California Environmental Quality Act Guidelines Section 15091.

- H. UNOCAL has agreed to at least one more round of pilot studies at the end of the first five-year pilot-test period. The number of methods to be tested in the second round of pilot studies will be limited to a reasonable number. The panel described in subsection B., above, shall be available to facilitate the performance of this second round of pilot tests in the same manner as described in subsections C. through F., above. The Board's dispute resolution and appeal process described in subsections C. through F., above, will also be applicable to the second round of pilot testing. Nothing in this agreement is intended to limit the ability of the Board to require additional rounds of pilot testing after the second round of pilot testing. UNOCAL specifically reserves whatever rights it has to appeal a decision of the Board to require more pilot tests beyond the initial round of pilot tests.
- IX. Implementation of Mitigation Measures pursuant to California Environmental Quality Act
- A. UNOCAL shall incorporate into the work required by this Order the following mitigation measures, identified in the FEIR and set forth in Resolution No. 98-04:
1. Marine Water Quality: MWQ-1, MWQ-2, MWQ-3 as modified, and MWQ-4 as modified.
  2. Marine Biology: MB-1 and MB-2.
  3. Water Quality: W-1 as modified, W-2 as modified, W-3 as modified, and W-4 through W-37, inclusive.
  4. Onshore Biological Resources: V3(a).
- B. UNOCAL shall implement additional mitigation measures identified in permits issued by other agencies, as necessary to complete, and so as not to delay, Phase I cleanup directed by this Order.
- X. Executive Officer approval is not needed for an interruption of work for five working days or less. Interruption of work for more than five working days may be authorized by the Executive Officer for a cause beyond the reasonable control of UNOCAL. Notification shall be in writing, including an explanation for the interruption, the reason the interruption is beyond the reasonable control of UNOCAL, and the approximate interruption timing. UNOCAL must notify the Executive Officer at least five days prior to anticipated work interruption or as soon as possible if five days notice is not practicable. If the Executive Officer disagrees with UNOCAL's request, he shall notify UNOCAL orally within one week of receipt of the written request. If UNOCAL requests, the Executive Officer will provide a written explanation of reasons for rejecting the delay within one week after UNOCAL asks for the written explanation. If the Executive Officer fails to respond to the request within the time permitted, the request for a delay up to 30 days is deemed approved. Any delay in excess of 30 days cannot be approved without the explicit agreement of the Executive Officer.
- XI. Compliance with any of the deadlines set forth in this Order shall be excused to the extent that such non-compliance arises from a cause beyond the reasonable control of UNOCAL, including, but not limited to, denial of access by land owners, weather or natural disasters, or unanticipated increases in the scope of excavation which prohibit timely completion of the required work. To request relief from a compliance deadline based on causes beyond its reasonable control, UNOCAL shall file a written notification with the Executive Officer as soon as practicable upon discovery of the cause and no later

that 30 days after the discovery of the cause or 90 days before the deadline, whichever is earlier, explaining the reason for the non-compliance and why the reason was beyond UNOCAL's reasonable control and requesting an extension of the deadline to a date that can reasonably be achieved. If the Executive Officer disagrees with UNOCAL's request for an extension of the deadline, he shall notify UNOCAL orally within one week of receipt of the written notification. If UNOCAL requests, the Executive Officer will provide a written explanation of reasons for rejecting the requested new deadline within one week after UNOCAL asks for the written explanation. If the Executive Officer fails to respond to the request within the time permitted, the request for an extension of the deadline up to 30 days is deemed approved. Any delay in excess of 30 days cannot be approved without the explicit agreement of the Executive Officer.

- XII. The intent of this Order is to require Phase I remedial actions that prevent discharges of diluent to surface water. If the actions required by this Order fail to meet that goal to the satisfaction of the Executive Officer, the Board may require additional corrective action as part of Phase I of the remediation project. Until all petroleum pollution and associated waste materials have been properly removed, treated, and disposed to the Board's satisfaction, UNOCAL remains responsible for any release to the environment and responsible for protection of resources and species impacted or threatened by Field-related materials. This Order does not limit the Board's discretion to require what it deems appropriate for future cleanup.

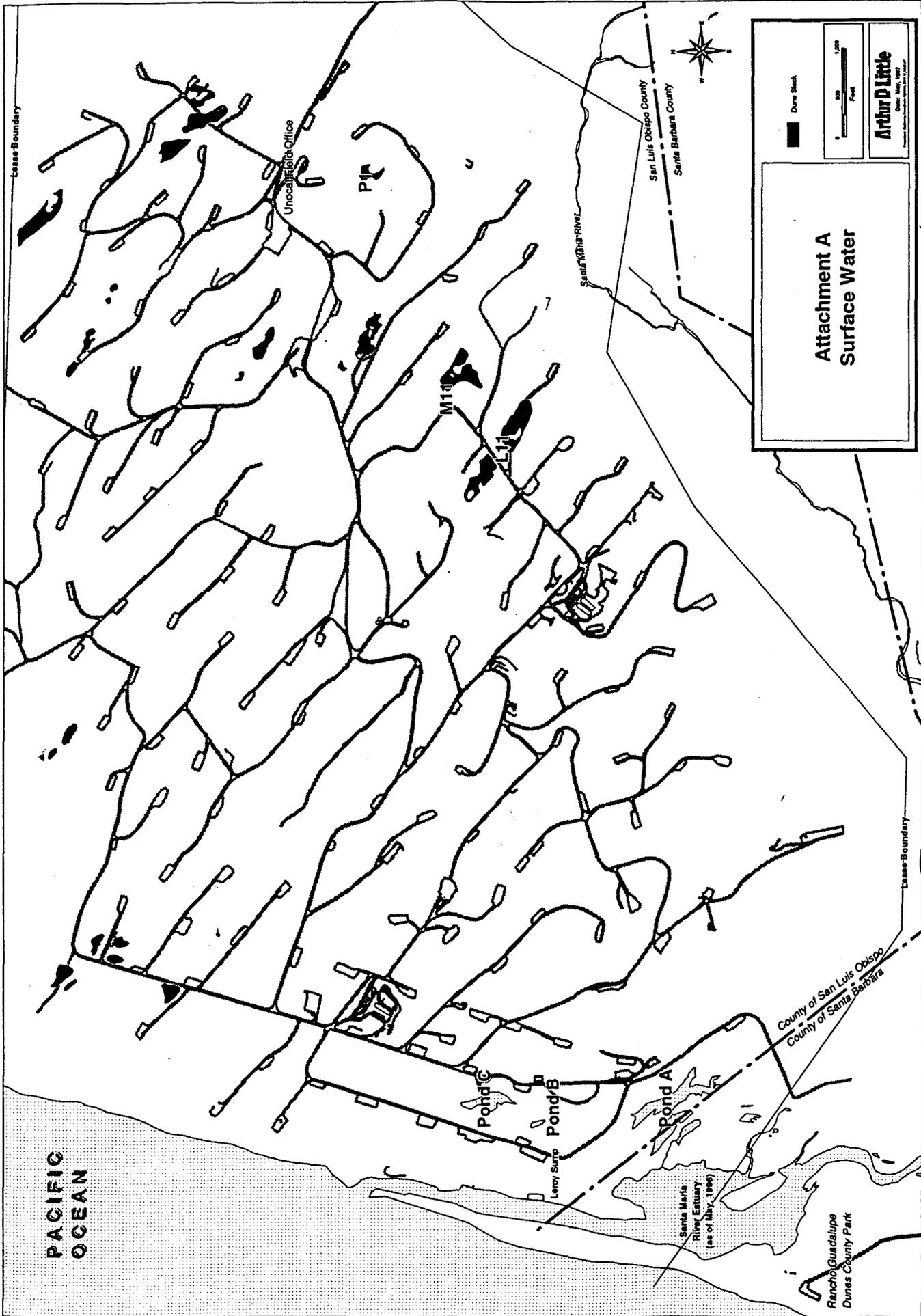
All technical and monitoring reports required in conjunction with this Order are required pursuant to Sections 13267 and 13304 of the California Water Code. Technical reports and plans shall be signed and stamped by an appropriately qualified engineer or geologist licensed in the State of California.

**FAILURE TO COMPLY WITH THE PROVISIONS OF THIS ORDER MAY SUBJECT YOU TO FURTHER ENFORCEMENT ACTION, INCLUDING, BUT NOT LIMITED TO, ASSESSMENT OF CIVIL LIABILITY UNDER SECTIONS 13268 AND 13350 OF THE WATER CODE AND REFERRAL TO THE DISTRICT ATTORNEY OR ATTORNEY GENERAL FOR INJUNCTIVE RELIEF AND CIVIL OR CRIMINAL LIABILITY.**

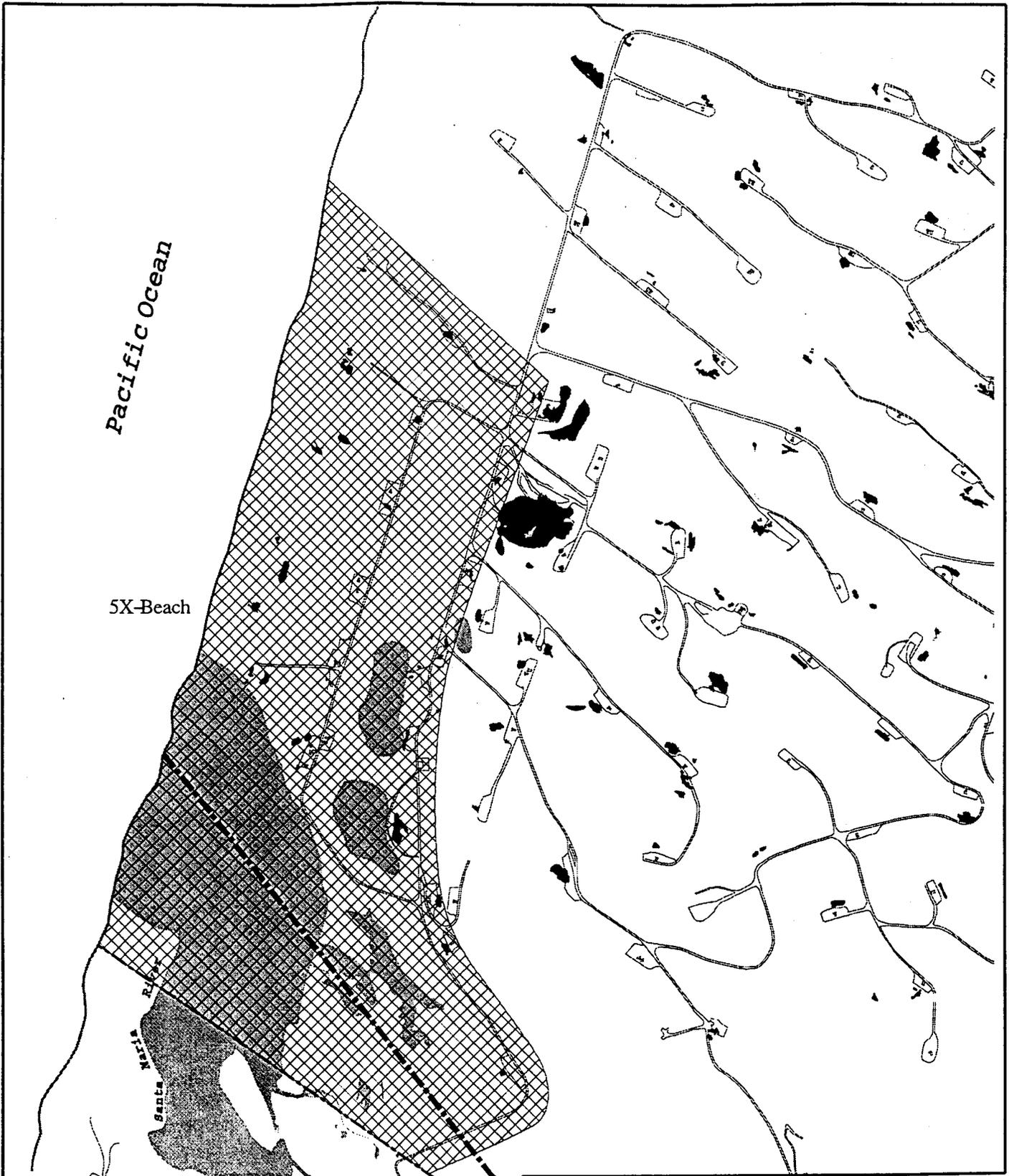
  
\_\_\_\_\_  
Executive Officer

11-4-98

Date







**EXPLANATION:**

- Lease Line
- County Line
- Shoreline
- Roadway and Well Pads
- Potential Sump Location Based on Aerial Photograph Review
- ▨ Approximate Extent of Surface Water
- ⊠ Sump Investigation Area



Unocal - Guadalupe

**Sump Investigation Area**

**Levine • Fricke • Recon**  
Project No. 5646

Attachment C



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EXHIBIT 7 E-99-009

Attorneys for Plaintiffs People of the State of California, ex rel. California Department of Fish and Game, the California Regional Water Quality Control Board for the Central Coast Region, California Department of Toxic Substances Control, California State Coastal Conservancy, and Attorney General Daniel E. Lungren

SUPERIOR AND MUNICIPAL COURTS OF THE STATE OF CALIFORNIA  
COUNTY OF SAN LUIS OBISPO

PEOPLE OF THE STATE OF CALIFORNIA, )  
ex rel. CALIFORNIA DEPARTMENT OF )  
FISH AND GAME, et al., )  
  
Plaintiffs, )  
  
v. )  
  
UNION OIL COMPANY OF CALIFORNIA )  
dba UNOCAL, a California Corporation, et )  
al., )  
  
Defendants. )

No. CV75194  
SETTLEMENT AGREEMENT  
AND JUDGMENT

1. Introduction

1.1. This Settlement Agreement and Judgment ("Stipulated Judgment") is entered into by plaintiffs California Department of Fish and Game ("DFG"), the California Regional Water Quality Control Board for the Central Coast Region ("Water Board"), California Department of Toxic Substances Control ("DTSC"), California State Coastal Conservancy ("Conservancy") and Attorney General Daniel E. Lungren ("Attorney General") (collectively referred to as the "State plaintiffs"); and defendants Union Oil Company of California, dba

1 Unocal, a California corporation, and Unocal Corporation, a Delaware corporation  
2 (collectively referred to as "Unocal"). The term "parties" in this Stipulated Judgment  
3 collectively refers to the State plaintiffs and Unocal. By entering into this Stipulated  
4 Judgment, the parties agree to the terms set forth in the paragraphs below and request the  
5 Court to enter Judgment.

6 1.2. This action, filed on March 23, 1994, arose out of numerous alleged  
7 discharges of diluent, a petroleum thinning agent used in the extraction of crude oil, into the  
8 land, environment and waters of the State at the oil field known as "the Guadalupe Oil Field"  
9 located in San Luis Obispo County, California, operated by Unocal. The State plaintiffs  
10 alleged in this action that on numerous occasions since Unocal began using diluent at the  
11 Guadalupe Oil Field, diluent has leaked from the pipelines and storage tanks at numerous  
12 locations into the waters of the State, including groundwater, surface water and marine  
13 water, directly and indirectly. Unocal denies that it violated any statutory or common law  
14 obligations and disputes the allegations made by the State plaintiffs, including but not limited  
15 to, the applicability of Proposition 65.

16 1.3. On July 22, 1994, the State plaintiffs filed a First Amended Complaint For  
17 Civil Penalties, Civil Monetary Remedies, Natural Resources Damages, Costs, and Injunctive  
18 Relief ("First Amended Complaint") against Unocal. The State plaintiffs alleged claims  
19 under Water Code subsections 13350(a)(2) and 13350(a)(3); Fish and Game Code sections  
20 5650, 5650.1, 12015, 12016, and 2014; Government Code sections 8670.25.5,  
21 8670.66(a)(4), 8670.66(a)(3), 8670.56.5, and 12607; Harbors and Navigation Code section  
22 151; Health & Safety Code sections 25249.5, 25249.6, 25189.2(c), 25189(d), 25189(b), and  
23 25143.10; Business and Professions Code section 17200; Civil Code sections 3479, 3480,  
24 and 3481; as well as claims for common law natural resource damages and negligence. On  
25 January 12, 1995, the defendants answered the First Amended Complaint and noted that  
26 Union Oil Company of California, dba Unocal, is a corporation organized and existing under  
27 the laws of California, and that Unocal Corporation is a corporation organized and existing  
28 under the laws of Delaware. Unocal Corporation is the parent company of Union Oil

1 Company of California. In its answer, Unocal also denied the allegations of statutory and  
2 common law violations made in the First Amended Complaint.

3 2. Jurisdiction and Venue

4 The parties agree that this Court, the San Luis Obispo Superior and Municipal  
5 Courts (the "Court"), has subject matter jurisdiction over the matters alleged in this action  
6 and personal jurisdiction over the parties to this Stipulated Judgment. The parties further  
7 agree that venue is proper in this Court.

8 3. Grounds for Settlement

9 The parties have expended substantial resources in a joint effort to resolve the  
10 numerous legal and technical issues in this case. For the purpose of avoiding additional  
11 protracted litigation, including a lengthy trial, the parties believe it is in their best interests to  
12 resolve this case without further litigation. In addition, the State plaintiffs believe the terms  
13 of this settlement are fair, reasonable and in the best interests of the public. By execution of  
14 this Stipulated Judgment, Unocal does not admit any violations of state statutory or common  
15 law as alleged in the First Amended Complaint.

16 4. Settlement of the State Plaintiffs' Claims for Damages, Civil Penalties and  
17 Costs

18 4.1. The parties agree to settle all of the State plaintiffs' monetary claims, subject  
19 to the provisions in paragraph 6 of this Stipulated Judgment, for \$43,800,000.00. Pursuant  
20 to the terms of the Stipulation of Terms and Conditions of No Contest Plea in People v.  
21 Beauchamp, San Luis Obispo County Municipal Court No. M202983 and the Stipulation for  
22 Judgment and Judgment Pursuant to Business and Professions Code 17200 et seq. in People  
23 v. Unocal Corporation, San Luis Obispo County Superior Court No. 075157, Unocal is  
24 entitled to credit for \$1,300,000.00, which sum previously was paid by Unocal to San Luis  
25 Obispo County. Therefore, Unocal will make settlement payments in the total sum of  
26 \$42,500,000.00 (hereinafter referred to as "settlement funds") to resolve this civil action.

27 4.2. Within ten business days of the lodging of this Stipulated Judgment with the  
28 Court, Unocal shall deposit, by electronic funds transfer or similar means, the sum of

1 \$42,500,000.00 in an interest-bearing escrow account to be established by Unocal at an  
2 institution for which counsel for the State plaintiffs has provided written consent. The State  
3 plaintiffs will provide the escrow instructions. Within ten days from the date this Stipulated  
4 Judgment is deemed final, the escrow officer shall distribute the settlement funds in  
5 accordance with the escrow instructions prepared by the State plaintiffs. If the Court decides  
6 not to enter judgment based on this Stipulated Judgment, all funds in the escrow account  
7 shall be returned to Unocal after the Court's order becomes final. For purposes of this  
8 Stipulated Judgment, the Court's order either approving or not approving the Stipulated  
9 Judgment shall be deemed final when the time for appeal of that order has expired without an  
10 appeal being taken or when a final order is issued by an appellate court that is not subject to  
11 further review.

12 4.3. The State plaintiffs agree that the settlement funds will be distributed as  
13 follows:

14 a. \$9,000,000.00 to be dedicated as natural resource damages to fund  
15 projects to restore, replace, rehabilitate and/or acquire the equivalent of the natural resource  
16 and related services that were injured, lost, or destroyed by diluent releases at the Guadalupe  
17 Oil Field. The funds for natural resources damages may be used to reimburse plaintiffs for  
18 design, implementation, permitting (as necessary), monitoring and oversight associated with  
19 the funded projects. The funds will be placed into the Guadalupe Natural Resources  
20 Restoration Trust (as set forth in Exhibit A).

21 b. \$15,000,000.00 to be dedicated for water quality projects within the  
22 Central Coast Region to be selected by the Water Board at public meetings. The funds for  
23 water quality projects may be used to reimburse plaintiffs for selection, design,  
24 implementation, permitting (as necessary), monitoring and oversight associated with the  
25 projects. The funds will be placed into the Guadalupe Oil Field Settlement Water Quality  
26 Project Trust (as set forth in Exhibit B).

27 c. \$500,000.00 as civil penalties to the State Water Pollution Cleanup and  
28 Abatement Account.

1                   d.     \$160,000.00 as costs incurred up to February 6, 1998, by the Attorney  
2 General in representation of the Water Board in relation to the Guadalupe Oil Field.

3                   e.     \$11,100,000.00 to DFG to be deposited into the Fish and Wildlife  
4 Pollution Account in the Fish and Game Preservation Fund for inland resource protection and  
5 pollution response.

6                   f.     \$375,000.00 as civil penalties to the Environmental Enhancement Fund  
7 established under Government Code section 8670.70.

8                   g.     \$125,000.00 to the Oil Spill Prevention and Administration Fund  
9 established under Government Code section 8670.38.

10                  h.     Up to \$4,840,000.00 as unreimbursed costs incurred by DFG and/or its  
11 designees in relation to the Guadalupe Oil Field. This includes agency costs incurred up to  
12 February 6, 1998.

13                  i.     \$700,000.00 to resolve the claims of DTSC, to be allocated as follows:  
14 (1) \$236,422.00 as civil penalties to DTSC, pursuant to Health and Safety Code section  
15 25192; (2) \$77,140.00 as civil penalties to be used to fund the activities of the local health  
16 officer of San Luis Obispo County to enforce the provisions of Chapter 6.5 of the Hazardous  
17 Waste Control Law, pursuant to Health and Safety Code section 25192; (3) \$200,000.00 to  
18 fund Supplemental Environmental Projects, in the form of restoration projects to be  
19 designated by DTSC, relating to natural resource damages at or in the vicinity of the  
20 Guadalupe Oil Field, which will be deposited in the Guadalupe Natural Resources Trust as  
21 set forth in Exhibit A; and (4) \$186,438.00 as reimbursement for costs of enforcement  
22 incurred by DTSC in relation to the Guadalupe Oil Field.

23                  j.     \$700,000.00 to resolve the claims of the Attorney General, to be  
24 allocated as follows: (1) Pursuant to Health and Safety Code section 25192, \$500,000 in  
25 civil penalties payable in the amounts of \$250,000.00 to the Hazardous Substances Account  
26 of the General Fund, \$125,000.00 to the local health officer of San Luis Obispo County, and  
27 \$125,000.00 to the Attorney General; and (2) \$200,000.00 to the Public Health Institute to  
28 provide resources for Proposition 65 enforcement activities.

1 k. Interest accrued in the escrow account described in paragraph 4.2 and any  
2 amount remaining after paying the costs described in paragraph 4.3(f) to be distributed  
3 evenly between the natural resource damages described in paragraph 4.3(a) and the water  
4 quality projects described in paragraph 4.3(b).

5 4.4. In addition to the settlement funds described above in paragraphs 4.1 through  
6 4.3, Unocal agrees to pay the reasonable costs incurred by the State plaintiffs' staff personnel  
7 and attorneys for negotiating and finalizing this settlement and preparing settlement  
8 documents, during the period from February 6, 1998 until the date of entry of the proposed  
9 Judgment by the Court. The State plaintiffs agree to provide Unocal an invoice(s) for these  
10 costs within 60 days after the date of entry of the Judgment by the Court. Unocal agrees to  
11 pay the invoice within 30 days after the date of the invoice(s).

12 5. Settlement of the State Plaintiffs' Claims for Injunctive Relief

13 5.1. The parties agree to settle the State plaintiffs' claims for injunctive relief by  
14 addressing immediate and long-term site cleanup issues through administrative directives and  
15 orders of the Water Board. The staff of the Water Board and Unocal agree that the  
16 remediation will proceed in phases. The first phase ("Phase I") of administrative decision-  
17 making is set forth in Cleanup or Abatement Order No. 98-38 adopted by the Water Board at  
18 its meeting on April 3, 1998 and amended on July 13, 1998 ("CAO 98-38"). The primary  
19 goal of Phase I is to prevent discharges of diluent to surface waters. Failure of the remedial  
20 action to satisfactorily achieve the goal may require further action at a specific location or  
21 locations, even before the completion of all Phase I activities. Secondary goals of Phase I  
22 include completing site characterization and investigating and testing alternative cleanup  
23 technologies, especially those that have the potential to replace excavation as an effective  
24 means of removal of separate phase diluent. Unocal agrees to comply with the requirements  
25 set forth in CAO 98-38.

26 5.2. It is difficult to define the parameters of subsequent phases of remediation  
27 because there are many variables at this time. For example, the potential impacts on the  
28 principal aquifer have not been fully explored, all sources of diluent discharges to ground

1 and surface water have not been fully characterized, and the effectiveness or feasibility of the  
2 remediation methods to be implemented as part of Phase I cannot be fully evaluated until  
3 after the field work proceeds. Determinations by the Water Board regarding implementation  
4 of additional phases of remediation will be based on, among other things, evaluation of  
5 Phase I activities, the emergence of new technologies, and the results of existing and ongoing  
6 site characterization. All such determinations will be made in accordance with the standards  
7 set forth in State Water Resources Control Board Resolution No. 92-49, or the applicable  
8 legal standards in existence at that time. Unocal reserves all of its rights under the Water  
9 Code to pursue administrative appeals and subsequent litigation challenging any  
10 administrative decisions of the Water Board, including decisions regarding compliance with  
11 CAO 98-38, with respect to the Guadalupe Oil Field, except that Unocal waives its rights to  
12 appeal CAO 98-38. Unocal will dismiss with prejudice its petition regarding CAO 98-38  
13 filed with the State Water Resources Control Board within 5 days after this Stipulated  
14 Judgment is deemed final as set forth in paragraph 4.2. Any administrative review and  
15 litigation initiated by Unocal regarding decisions of the Water Board with respect to the  
16 Guadalupe Oil Field shall be conducted in accordance with sections 13320, 13321, 13330 and  
17 other applicable provisions of the Water Code.

18 5.3. Unocal and the Water Board agree that all issues that are now within the scope  
19 of the CONCUR mediation process will continue to be addressed in that process. All future  
20 disputes regarding site characterization and remediation under CAO 98-38, including but not  
21 limited to, the performance of pilot tests and interpretation of pilot test results, will be  
22 submitted to a mutually-acceptable mediation process, such as the current Concur mediation  
23 process, after Unocal and the Water Board attempt informal dispute resolution. DFG may  
24 participate at its discretion in the mediation process. Both parties agree to attempt to resolve  
25 their dispute in mediation in good faith and mediation shall continue until the issue is  
26 resolved or until either party decides to withdraw an issue from mediation and pursue  
27 whatever recourse they have as authorized by law to resolve the dispute. An issue may also  
28 be withdrawn from mediation upon determination by the mediator that there is not a

1 reasonable likelihood that the issue can be resolved in mediation. The Water Board  
2 participation in the mediation process does not limit the Board's discretion to require what it  
3 deems appropriate for investigation or cleanup.

4 5.4. Except as specifically provided in CAO 98-38, this Stipulated Judgment shall  
5 not limit the State plaintiffs from exercising their authority under any law, statute, or  
6 regulation, including, but not limited to, requiring appropriate investigative and cleanup  
7 activities at the Guadalupe Oil Field; provided further, that if Unocal complies fully with the  
8 requirements for excavation set forth in CAO 98-38, the Water Board may not require  
9 Unocal to excavate in any area that has been excavated in compliance with the excavation  
10 requirements of CAO 98-38, except in those areas where only partial excavation has been  
11 required (for example, L11, M4 and B12).

12 5.5 a. While some chemicals listed under Proposition 65 are present at the  
13 field, due to the extent of contamination with petroleum hydrocarbons, and the need for the  
14 prompt initiation and completion of cleanup as described in paragraph 5.2, Proposition 65  
15 compliance shall be achieved within the parameters of the CAO 98-38 process. The Water  
16 Board, in setting final cleanup standards for the Field, shall consult with the Attorney  
17 General and take into account the provisions of Proposition 65.

18 b. With respect to warnings required by Health and Safety Code section  
19 25249.5, Unocal shall, no later than 10 days after the Court approves this Stipulated  
20 Judgment, post one sign at the entrance to the Field and two beachfront signs containing the  
21 following in conspicuous type: "This area contains chemicals known to the State of  
22 California to cause cancer and birth defects or other reproductive harm."

23 c. In the event of new surface discharges causing potentially significant  
24 exposures to Proposition 65 chemicals to those off-site, Unocal will immediately contact the  
25 Attorney General to agree upon satisfactory methods of providing additional warnings.

26 5.6. Unocal agrees to provide the Water Board financial assurance of Unocal's  
27 long-term capability to carry out remedial activities at the Guadalupe Oil Field as follows:

28 a. The financial assurance shall be in the form of a corporate guarantee

1 demonstrating that Unocal passes the financial test specified in California Code of  
2 Regulations, title 22 ("22 CCR"), section 66264.143(f). Unocal shall submit to the Water  
3 Board within 60 days of entry of this Judgment and annually thereafter the following  
4 documents: (i) a letter from its Chief Financial Officer substantially similar to that  
5 established by DTSC under 22 CCR section 66264.143(f)(3); and (ii) reports substantially  
6 similar to those established by DTSC under 22 CCR section 66264.143(f)(3)(B) & (C).

7           b.       The financial test will be based on the current estimate of total  
8 remediation costs. Consistent with DTSC regulations, the remediation cost estimate will be  
9 adjusted annually, and a revised financial test letter based on the adjusted cost estimate will  
10 be provided.

11           c.       If Unocal no longer meets the financial test specified in 22 CCR section  
12 66264.143(f), including, but not limited to, an inability based on a change in ownership,  
13 Unocal shall send notice to the Water Board of Unocal's intent to establish alternate financial  
14 assurance as specified in 22 CCR section 66264.143. Unocal must send the notice within 90  
15 days after any occurrence that prevents Unocal from meeting the financial test and Unocal  
16 must provide the alternate financial assurance within 120 days after the end of its latest  
17 completed fiscal year.

18           d.       The Water Board may, based on a reasonable belief that Unocal may  
19 no longer meet the requirements of the financial test referred to in paragraph 5.6(a), above,  
20 require additional reports of financial condition at any time from Unocal. If the Water Board  
21 determines that Unocal no longer satisfies the financial test referred to in paragraph 5.6(a)  
22 above, Unocal shall provide alternate financial assurance within 30 days after notification of  
23 the Water Board's determination.

24           e.       If there is a change in ownership or corporate status of Unocal, Unocal  
25 shall require its successor (i) to provide a financial test letter (or other form of financial  
26 assurance acceptable to the Water Board) based on the then-current estimate of total  
27 remediation costs and (ii) to provide a corporate guarantee to Unocal that substantially  
28 conforms to the requirements of 22 CCR section 66264.143(f)(10) and provides that the

1 successor shall carry out the required remedial activities or shall establish a trust fund as  
2 specified in 22 CCR section 66264.143(a) in the name of Unocal.

3 5.7. In accordance with Water Code section 13304 and other applicable law,  
4 Unocal shall continue to pay (a) the reasonable costs of oversight incurred by the Water  
5 Board and DFG in relation to remedial investigation and site cleanup activities at the  
6 Guadalupe Oil Field, including reasonable agency overhead, if any, and the reasonable cost  
7 of consultants to assist staff with their oversight work; and (b) the reasonable costs of  
8 response incurred by the Water Board and DFG in relation to releases at the Guadalupe Oil  
9 Field after February 6, 1998, including reasonable agency overhead, if any, and the  
10 reasonable cost of consultants to assist staff with their response activities.

11 5.8. The parties acknowledge that, when this Stipulated Judgment is deemed final,  
12 Unocal's criminal probation in San Luis Obispo County Municipal Court Case No. M202983  
13 will terminate in accordance with paragraph 2(c) of the Stipulation of Terms and Conditions  
14 of Settlement of Probation Violation, filed on April 22, 1997. Unocal shall provide notice to  
15 the Municipal Court when this Stipulated Judgment is deemed final.

16 5.9. Within 90 days after the Stipulated Judgment becomes final, the Parties shall  
17 exchange all data concerning the Guadalupe Field collected after December 1993 that the  
18 parties have not previously exchanged; provided, however, that the parties shall not be  
19 required to exchange any privileged interpretations of such data. The State Plaintiffs shall  
20 provide all such data to Unocal; Unocal shall provide all such data to the Water Board and  
21 Unocal shall also provide any data pertaining to the value of any losses of natural resources  
22 or services provided by natural resources (including, but not limited, public surveys and  
23 recreational use data) and toxicity data contained within that data to DFG. Unocal shall  
24 reimburse the State plaintiffs for the reasonable costs associated with providing the data to  
25 Unocal.

26 5.10 When Unocal has completed excavation of a particular area in accordance with  
27 the excavation performance standards in CAO No. 98-38 and has completed backfilling of  
28 the excavated area, the Water Board shall issue a certificate of completion of the excavation

1 task for each such area. This paragraph shall not apply to require a certificate of completion  
2 for an area where only partial excavation has been performed (for example, L11, M4, and  
3 B12). The Parties agree that the certificates of completion do not constitute final closure and  
4 that final closure of particular areas will not occur until the Water Board determines that soil  
5 and groundwater cleanup levels to be specified at a later date by the Water Board have been  
6 achieved.

7 6. Matters Covered by this Stipulated Judgment

8 6.1. Subject to the reservations set forth in paragraphs 5.4, 5.5, 5.7 and 6.2  
9 through 6.6 inclusive, final approval of this Stipulated Judgment by the Court and Unocal's  
10 performance of all of the obligations set forth in this Stipulated Judgment resolves all civil,  
11 criminal, and administrative claims of the State plaintiffs for the violations set forth in the  
12 complaints referenced in paragraphs 1.2 and 1.3, for any claims based upon releases from  
13 the Guadalupe Oil Field up to the date of execution of this Stipulated Judgment, including the  
14 releases from the 5X area, the 3X area, the A2A area, and the Leroy 2 Access Road sump in  
15 February and March, 1998, and for any other claims based on the underlying facts alleged in  
16 the complaints referenced in paragraphs 1.2 and 1.3 that could have been asserted, including,  
17 but not limited to, all California Water Code, Fish & Game Code, Proposition 65, Business  
18 and Professions Code, Government Code, Harbors and Navigation Code, Civil Code, Health  
19 and Safety Code, and any other federal or State statutory and common law claims for  
20 injunctive relief and any form of monetary relief, including, but not limited to, civil  
21 penalties, natural resource damages, tort damages, restitution, disgorgement of profits, cost  
22 reimbursement, and attorneys' fees and costs against Unocal or its present, former, or future  
23 parents, subsidiaries, directors, officers, consultants or agents. Nothing in this Stipulated  
24 Judgment limits the Water Board's reservations of rights in CAO 98-38.

25 6.2. This Stipulated Judgment does not preclude the State plaintiffs from pursuing  
26 administratively or judicially any statutory or common law claims they may have based upon  
27 the presence of petroleum hydrocarbons, any hazardous substances or any waste in the  
28 principal aquifer which is located, in part, beneath the Guadalupe Oil Field; provided,

1 however, that the State plaintiffs may only seek civil penalties for petroleum hydrocarbons  
2 based on the petroleum hydrocarbons physically present in the principal aquifer at the time  
3 the characterization and assessment of the principal aquifer commenced under the mediation  
4 process is completed as determined under the mediation process or by the Water Board.

5 6.3. This Stipulated Judgment does not preclude the State plaintiffs from pursuing  
6 administratively or judicially any statutory or common law claims they may have relating to  
7 substances other than petroleum hydrocarbons in areas above the principal aquifer; provided,  
8 however, that (a) a claim for monetary relief, including but not limited to civil penalties,  
9 natural resource damages, tort damages, restitution, and disgorgement of profits, shall only  
10 be available if the environmental harm that is caused by the substances other than petroleum  
11 hydrocarbons is greater than or different from the environmental harm caused by the  
12 presence of petroleum hydrocarbons on and beneath the Guadalupe Oil Field; and (b) relief  
13 shall be based on the environmental harm that is greater than or different from the  
14 environmental harm caused by the presence of petroleum hydrocarbons on and beneath the  
15 Guadalupe Field, as well as other factors authorized by applicable law.

16 6.4. This Stipulated Judgment does not preclude plaintiffs from pursuing any claims  
17 based upon violations of state or federal law occurring after the date of the lodging of this  
18 Stipulated Judgment with the Court.

19 6.5. Unocal shall be liable for administrative or judicial civil liabilities and  
20 penalties for any significant discharges of separate phase diluent to surface waters from the  
21 diluent plume at the location commonly known as "5X" which occur after the lodging of this  
22 Stipulated Judgment with the Court but prior to the completion of excavation at this location  
23 in accordance with the excavation standards and applicable requirements set forth in CAO  
24 98-38.

25 The State plaintiffs shall recover civil liabilities and penalties by commencing a new  
26 administrative or judicial action within 3 years of the date of discovery of the discharge into  
27 the surface water.

28 6.6. Except as specifically provided in this Stipulated Judgment, nothing in this

1 Stipulated Judgment shall preclude, prejudice, waive, or impair any right, remedy, or  
2 defense that Unocal may have in any legal proceeding not covered by the release set forth in  
3 Paragraph 6.1, above, or in any further proceeding regarding matters covered by this  
4 Stipulated Judgment.

5 7. Attorneys Fees and Costs

6 Except as otherwise provided in paragraphs 4 and 8, the parties shall bear  
7 their own costs and attorneys' fees.

8 8. Enforcement of Stipulated Judgment

9 Any party may, by noticed motion or other authorized means, apply to the  
10 Court for enforcement of the terms of this Stipulated Judgment, except for issues relating to  
11 compliance with or interpretations of CAO 98-38 which are to be resolved through the  
12 dispute resolution process described at paragraph 5.3 or other remedies authorized by law.  
13 In any action brought by the State plaintiffs under this paragraph, the State plaintiffs may  
14 seek whatever fines, penalties, and other remedies are provided by law for failure to comply  
15 with this Stipulated Judgment and either State plaintiffs or Unocal, whoever is the prevailing  
16 party may be awarded attorney's fees and costs if available under applicable law. The Water  
17 Board reserves its right to exercise any administrative remedy authorized by law in lieu of  
18 proceeding by motion in this action and Unocal reserves its rights to exercise any  
19 administrative or judicial challenges to any such administrative remedy exercised by the  
20 Water Board.

21 9. Continuing Jurisdiction

22 The Court retains jurisdiction to enforce the terms of this Stipulated Judgment.

23 10. Authority to Stipulate to Enter Stipulated Judgment

24 Each signatory to this Stipulated Judgment certifies that he or she is fully  
25 authorized by the party he or she represents to agree in full to the terms of this Stipulated  
26 Judgment and to legally bind such party.

27 11. Modification

28 This Stipulated Judgment may be modified upon written approval of the parties

1 and entry of a modified judgment by the Court based thereon, or upon motion of any party  
2 as provided by law and upon entry of a modified Judgment by the Court.

3 12. Court Approval

4 If the Judgment is not approved by the Court, it shall be of no force or effect  
5 and cannot be used in any proceeding for any purpose.

6 13. Execution in Counterparts

7 This Stipulated Judgment may be executed in counterparts, or by facsimile  
8 thereof, which taken together shall be deemed to constitute one document.

9 14. Persons Bound.

10 This Stipulated Judgment shall apply to and be binding upon the State plaintiffs  
11 and Unocal and their directors, officers, employees, and agents and their successors or  
12 assigns. Any change in ownership or corporate status of Unocal, including, but not limited  
13 to, any transfer of assets or real or personal property shall not alter Unocal's responsibilities  
14 under this Stipulated Judgment, except as otherwise set forth in paragraph 5.6.e. This  
15 Stipulated Judgment shall not apply to or be binding on any federal, state or local  
16 department, agency or entity that is not a party to this case.

17 15. Notice and Submittals.

18 When any party is entitled to receive any notice or other written  
19 communication under this Stipulated Judgment, the notice or written communication shall be  
20 sent by overnight courier service or facsimile to the person and address set forth in this  
21 paragraph. Any party may modify the person and address to whom notice is to be sent by  
22 sending each other party notice by certified mail, return receipt requested. Said change shall  
23 take effect for any notice mailed at least five days after the date the return receipt is signed  
24 by the party receiving the change. Notices or written communications shall be sent to the  
25 following:

26 For Water Board, DFG, DTSC, Conservancy, and AG:  
27 Mary E. Hackenbracht, Esq.  
28 Office of the Attorney General  
2101 Webster St., 12th Floor  
Oakland, California 94612-3049

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Timothy R. Patterson, Esq.  
Office of the Attorney General  
110 West A St., Suite 1100  
San Diego, California 92101

Jennifer Soloway, Esq.  
State Water Resources Control Board  
901 P Street  
Sacramento, California 95814

Katherine Verrue-Slater, Esq.  
Department of Fish and Game  
Office of Spill Prevention and Response  
1416 Ninth Street  
P.O. Box 944209  
Sacramento, California 94244-2090

Patricia S. Peterson, Esq.  
Office of the Attorney General  
2101 Webster St., 12th Floor  
Oakland, California 94612-3049

Craig Thompson, Esq.  
Office of the Attorney General  
1300 I Street  
P.O.Box 944255  
Sacramento, California 94244-2550

For Unocal:  
Mark A. Smith, Esq.  
Unocal Corporation  
2141 Rosecrans Ave., Suite 4060  
El Segundo, California 90245

Patrick J. Cafferty, Jr.  
Munger, Tolles & Olson  
33 New Montgomery St., Suite 1900  
San Francisco, California 94105

15. Integration Clause

This Stipulated Judgment constitutes the entire agreement between the parties  
and may not be amended or supplemented except as provided for herein.

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1 16. Interpretation.

2 The terms of this Stipulated Judgment have been fully negotiated by the parties  
3 at arm's length, after advice by counsel and other representatives, chosen independently by  
4 each party, and the parties are fully informed with respect thereto. Therefore, none of the  
5 parties shall be deemed the scrivener of this Stipulated Judgment and the provisions of this  
6 Stipulated Judgment shall be construed as a whole according to their common meaning and  
7 not strictly for or against any party.

8 17. Headings.

9 The headings used in this Stipulated Judgment are for convenience of reference  
10 and should not be used to define the meaning of any provision.

11 This Stipulated Judgment is agreed to by the following representatives of the parties:

12 Plaintiffs:

13 CALIFORNIA DEPARTMENT OF FISH & GAME

14 DATED: \_\_\_\_\_

Pete Bontadelli  
15 PETE BONTADELLI, Administrator  
Office of Oil Spill Prevention and Response, California  
16 Department of Fish and Game

17 CALIFORNIA REGIONAL WATER QUALITY CONTROL  
18 BOARD, CENTRAL COAST REGION

19 DATED: \_\_\_\_\_

Roger Briggs  
20 ROGER BRIGGS, Executive Officer  
California Regional Water Quality Control Board, Central  
21 Coast Region

22 CALIFORNIA DEPARTMENT OF TOXIC  
23 SUBSTANCES CONTROL

24 DATED: \_\_\_\_\_

Jesse Huff  
25 JESSE HUFF, Director  
California Department of Toxic Substances Control  
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This Stipulated Judgment is agreed to by the following representatives of the parties:

Plaintiffs:

CALIFORNIA DEPARTMENT OF FISH & GAME

DATED: \_\_\_\_\_

\_\_\_\_\_  
PETE BONTADELLI, Administrator  
Office of Oil Spill Prevention and Response, California  
Department of Fish and Game

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, CENTRAL COAST REGION

DATED: 7/20/98

*Paul Briggs*  
\_\_\_\_\_  
ROGER BRIGGS, Executive Officer  
California Regional Water Quality Control Board, Central  
Coast Region

CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

DATED: \_\_\_\_\_

\_\_\_\_\_  
JESSE HUFF, Director  
California Department of Toxic Substances Control

1 16. Interpretation.

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8 17. Headings.

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10 and should not be used to define the meaning of any provision.

11 This Stipulated Judgment is agreed to by the following representatives of the parties:

12 Plaintiffs:

13 CALIFORNIA DEPARTMENT OF FISH & GAME

14 DATED: \_\_\_\_\_

15 PETE BONTADELLI, Administrator  
16 Office of Oil Spill Prevention and Response, California  
17 Department of Fish and Game

18 CALIFORNIA REGIONAL WATER QUALITY CONTROL  
19 BOARD, CENTRAL COAST REGION

20 DATED: \_\_\_\_\_

21 ROGER BRIGGS, Executive Officer  
22 California Regional Water Quality Control Board, Central  
23 Coast Region

24 CALIFORNIA DEPARTMENT OF TOXIC  
25 SUBSTANCES CONTROL

26 DATED: 7/20/98

27 JESSE HUFF, Director  
28 California Department of Toxic Substances Control

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CALIFORNIA STATE COASTAL CONSERVANCY

DATED: 7/20/98

William Aher  
WILLIAM AHERN, Executive Officer  
California State Coastal Conservancy

DATED: 7/20/98

ATTORNEY GENERAL DANIEL E. LUNGREN  
Craig C. Thompson  
CRAIG C. THOMPSON, Supervising  
Deputy Attorney General

DATED: 7/20/98

Counsel for Plaintiffs:  
Mary E. Hackenbracht  
MARY E. HACKENBRACHT, Supervising  
Deputy Attorney General

Counsel for California Department of Fish and Game;  
California Regional Water Quality Control Board, Central  
Coast Region; and Attorney General Daniel E. Lungren

DATED: \_\_\_\_\_

\_\_\_\_\_  
TIMOTHY R. PATTERSON  
Deputy Attorney General

Counsel for California Department of Toxic  
Substances Control

DATED: 7/20/98

Patricia Sheehan Peterson  
PATRICIA SHEEHAN PETERSON  
Deputy Attorney General

Counsel for California State Coastal Conservancy

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CALIFORNIA STATE COASTAL CONSERVANCY

DATED: \_\_\_\_\_

WILLIAM AHERN, Executive Officer  
California State Coastal Conservancy

ATTORNEY GENERAL DANIEL E. LUNGREN

DATED: \_\_\_\_\_

CRAIG C. THOMPSON, Supervising  
Deputy Attorney General

Counsel for Plaintiffs:

DATED: \_\_\_\_\_

MARY E. HACKENBRACHT, Supervising  
Deputy Attorney General

Counsel for California Department of Fish and Game;  
California Regional Water Quality Control Board, Central  
Coast Region; and Attorney General Daniel E. Lungren

DATED: 7-20-98

*Timothy R. Patterson*  
TIMOTHY R. PATTERSON  
Deputy Attorney General

Counsel for California Department of Toxic  
Substances Control

DATED: \_\_\_\_\_

PATRICIA SHEEHAN PETERSON  
Deputy Attorney General  
  
Counsel for California State Coastal Conservancy

UNION OIL COMPANY OF CALIFORNIA, dba  
UNOCAL, a California Corporation, and  
UNOCAL CORPORATION, a Delaware Corporation

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DATED: 7/17/98



PAUL T. WEST, General Manager  
California Operating Services  
Unocal Corporation

DATED: \_\_\_\_\_

\_\_\_\_\_  
DANIELE FACCHINI

Assistant Secretary  
Unocal Corporation

On Behalf of All Defendants

Counsel for Defendants:

DATED: \_\_\_\_\_

\_\_\_\_\_  
MARK A. SMITH, ESQ.,

Assistant General Counsel  
UNOCAL CORPORATION

DATED: \_\_\_\_\_

\_\_\_\_\_  
PATRICK J. CAFFERTY, JR., ESQ.

MUNGER, TOLLES & OLSON LLP

Counsel for Defendants Union Oil Company of California,  
dba UNOCAL, and Unocal Corporation

Having considered the settlement terms set forth in this Stipulated Judgment and good cause  
appearing therefore, IT IS SO ORDERED, ADJUDGED, AND DECREED.

DATED: \_\_\_\_\_

By: \_\_\_\_\_  
HONORABLE BARRY C. HAMMER

JUDGE OF THE SUPERIOR COURT

UNION OIL COMPANY OF CALIFORNIA, dba  
UNOCAL, a California Corporation, and  
UNOCAL CORPORATION, a Delaware Corporation

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3 DATED: \_\_\_\_\_

\_\_\_\_\_  
PAUL T. WEST, General Manager  
California Operating Services  
Unocal Corporation

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6 DATED: 7/17/98

\_\_\_\_\_  
*Daniele Facchini*

7 DANIELE FACCHINI  
8 Assistant Secretary  
9 Unocal Corporation

10 On Behalf of All Defendants

11 Counsel for Defendants:

12  
13 DATED: \_\_\_\_\_

\_\_\_\_\_  
MARK A. SMITH, ESQ.,  
Assistant General Counsel  
UNOCAL CORPORATION

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17 DATED: \_\_\_\_\_

\_\_\_\_\_  
PATRICK J. CAFFERTY, JR., ESQ.  
MUNGER, TOLLES & OLSON LLP

18  
19 Counsel for Defendants Union Oil Company of California,  
20 dba UNOCAL, and Unocal Corporation

21  
22 Having considered the settlement terms set forth in this Stipulated Judgment and good cause  
23 appearing therefore, IT IS SO ORDERED, ADJUDGED, AND DECREED.

24  
25 DATED: \_\_\_\_\_

By: \_\_\_\_\_  
HONORABLE BARRY C. HAMMER  
JUDGE OF THE SUPERIOR COURT

UNION OIL COMPANY OF CALIFORNIA, dba  
UNOCAL, a California Corporation, and  
UNOCAL CORPORATION, a Delaware Corporation

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DATED: \_\_\_\_\_

\_\_\_\_\_  
PAUL T. WEST, General Manager  
California Operating Services  
Unocal Corporation

DATED: \_\_\_\_\_

\_\_\_\_\_  
DANIELE FACCHINI  
Assistant Secretary  
Unocal Corporation

On Behalf of All Defendants

Counsel for Defendants:

DATED: July 17, 1998

Mark A. Smith

MARK A. SMITH, ESQ.,  
Assistant General Counsel  
UNOCAL CORPORATION

DATED: \_\_\_\_\_

\_\_\_\_\_  
PATRICK J. CAFFERTY, JR., ESQ.  
MUNGER, TOLLES & OLSON LLP

Counsel for Defendants Union Oil Company of California,  
dba UNOCAL, and Unocal Corporation

Having considered the settlement terms set forth in this Stipulated Judgment and good cause  
appearing therefore, IT IS SO ORDERED, ADJUDGED, AND DECREED.

DATED: \_\_\_\_\_

By: \_\_\_\_\_  
HONORABLE BARRY C. HAMMER  
JUDGE OF THE SUPERIOR COURT

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UNION OIL COMPANY OF CALIFORNIA, dba  
UNOCAL, a California Corporation, and  
UNOCAL CORPORATION, a Delaware Corporation

DATED: \_\_\_\_\_

\_\_\_\_\_  
PAUL T. WEST, General Manager  
California Operating Services  
Unocal Corporation

DATED: \_\_\_\_\_

\_\_\_\_\_  
DANIELE FACCHINI  
Assistant Secretary  
Unocal Corporation

On Behalf of All Defendants

Counsel for Defendants:

DATED: \_\_\_\_\_

\_\_\_\_\_  
MARK A. SMITH, ESQ.,  
Assistant General Counsel  
UNOCAL CORPORATION

DATED: 7/17/98

Patrick J. Cafferty, Jr.  
\_\_\_\_\_  
PATRICK J. CAFFERTY, JR., ESQ.  
MUNGER, TOLLES & OLSON LLP

Counsel for Defendants Union Oil Company of California,  
dba UNOCAL, and Unocal Corporation

Having considered the settlement terms set forth in this Stipulated Judgment and good cause  
appearing therefore, IT IS SO ORDERED, ADJUDGED, AND DECREED.

DATED: \_\_\_\_\_

By: \_\_\_\_\_  
HONORABLE BARRY C. HAMMER  
JUDGE OF THE SUPERIOR COURT

**EXHIBIT A**



1 costs incurred by DFG and/or its designees.

2 **PURPOSE**

3 6. The purpose of this Agreement is to establish the Guadalupe Natural Resources  
4 Restoration Trust ("Trust") and to appoint the Foundation as its Trustee. This Agreement  
5 outlines the terms under which the Foundation shall exercise this function.

6 7. The purpose of the Trust is to receive, manage and disburse funds, in  
7 accordance with the direction of DFG, the Conservancy, and DTSC for certain Restoration  
8 Projects relating to diluent releases at the Guadalupe Oil Field.

9 **SETTLOR**

10 8. Unocal shall fund this Trust with certain settlement funds pursuant to a  
11 requirement in the Stipulated Judgment. With the exception of the obligation to establish this  
12 Trust, Unocal shall have no rights, duties, obligations, fiduciary or financial responsibilities  
13 of any kind in connection with this Trust. Without limiting the foregoing, Unocal shall have  
14 no rights, duties, obligations, fiduciary or financial responsibilities with respect to the  
15 management of this Trust, the use of funds held in this Trust, property acquired with Trust  
16 funds, or Natural Resource Restoration Projects funded by the Trust. This Trust is  
17 irrevocable and Unocal retains no interest whatsoever in the corpus or proceeds of this Trust.

18 **TRUSTEE**

19 9. The Foundation shall be Trustee of the Trust.

20 10. The Foundation and/or any successor appointed by DFG and the Conservancy  
21 jointly submits to the jurisdiction of the San Luis Obispo County Superior and Municipal  
22 Courts ("the Court") for purposes of enforcement and supervision of the Trust.

23 11. DFG and the Conservancy jointly shall have the power to appoint a  
24 replacement Trustee if the office of the Trustee becomes vacant.

25 12. DFG and the Conservancy jointly shall have the power to remove the Trustee  
26 if at any time DFG and the Conservancy jointly determine that the Trustee is not performing  
27 its duties in a manner that is consistent with the purposes of the Trust. DFG and the

1 Conservancy jointly shall have the right to ask the Court to remove the Trustee or to  
2 terminate the Trust. The Foundation may resign as Trustee at any time for cause upon 90  
3 days written notice to DFG, the Conservancy and DTSC. If the Foundation resigns, DFG  
4 and the Conservancy jointly shall appoint a new Trustee or petition the Court to appoint a  
5 new Trustee and the Foundation shall transfer any and all moneys in the restricted account  
6 and all necessary records to the new Trustee as specified by DFG and the Conservancy and  
7 shall promptly provide DFG, the Conservancy and DTSC with an accounting of the status of  
8 the Trust. The change in Trustee shall not otherwise alter the terms of the Trust.

9 13. In addition to the powers expressly granted to the Trustee by this Agreement,  
10 the Trustee shall have all other powers granted to Trustees under the laws of the State of  
11 California, except as otherwise provided in this Agreement.

12 14. Unless otherwise agreed by DFG and the Conservancy, the Foundation shall  
13 not hold an interest in any real or personal property acquired with settlement funds nor shall  
14 it acquire, manage or dispose of such property. DTSC's concurrence shall be required for  
15 real or personal property acquired in whole or in part by the \$200,000 allocated for  
16 Supplemental Environmental Projects.

17 15. The settlement funds shall not be deemed federal funds within the meaning of  
18 16 U.S.C. section 3703(e) and shall not be deemed State moneys within the meaning of  
19 California Government Code section 16305.2.

#### 20 **BENEFICIARIES**

21 16. The People of the State of California are the beneficiaries of the Trust.

#### 22 **DUTIES OF THE TRUSTEE**

23 17. The Trustee shall maintain funds subject to the Trust in a Segregated Account  
24 separate from all other Foundation accounts.

25 18. All funds held in the Segregated Account shall be invested as directed by DFG  
26 and the Conservancy jointly, and, in the absence of specific instructions, shall be invested in  
27 U.S. Treasury Bills and notes. Interest and earnings accruing to the Segregated Account

1 shall be reinvested in the Segregated Account and used to carry out the purpose of the Trust.

2 19. The Trustee is authorized and obligated to make disbursements of funds from  
3 the Segregated Account pursuant to the requirements of this Trust document.

4 20. The Foundation shall appoint an individual, the Foundation Representative,  
5 who will represent the Foundation in carrying out its obligations as Trustee under this  
6 Agreement. The Foundation shall identify to DFG, the Conservancy, and DTSC, in writing,  
7 the identity, mailing address, and phone number of the Foundation Representative. Any  
8 change in the Foundation Representative shall be communicated to DFG, the Conservancy,  
9 and DTSC within 10 business days of the change.

10 21. The Trustee shall fund, subject to paragraph 25 below, Restoration Projects  
11 (including restoration planning activities, and oversight and monitoring) as directed by DFG,  
12 the Conservancy and/or DTSC.

13 22. The Trustee shall submit to DFG, the Conservancy, and DTSC, an annual  
14 report, by December 15 of each year, which itemizes all funds maintained, deposited,  
15 accrued, and disbursed from the Segregated Account. The Foundation shall not be required  
16 to submit an annual report to DTSC in subsequent years following the year that the \$200,000  
17 identified for Supplemental Environmental Projects is disbursed in accordance with the  
18 direction of DTSC.

#### 19 SELECTION OF AUTHORIZED PROJECTS

20 23. DFG, the Conservancy, and DTSC shall, pursuant to the MOU, select  
21 Restoration projects to be funded by the Trust. Disbursement of funds totalling no more than  
22 \$200,000 shall be approved by DTSC as Supplemental Environmental Projects and evidenced  
23 by a written authorization signed by DTSC. Disbursement of all other funds for Restoration  
24 Projects shall be approved by DFG and the Conservancy and evidenced by a written  
25 authorization signed by both DFG and the Conservancy.

26 24. DFG shall appoint a representative ("DFG Representative") for purposes of  
27 communicating with the Foundation regarding management of the Trust and disbursements

1 from the Trust to facilitate Restoration Projects selected by DFG and the Conservancy and/or  
2 DTSC. DFG shall give the Trustee Representative written notice of the name, address, and  
3 telephone number of the DFG Representative. Any action taken by the Trustee in strict  
4 accordance with this Trust Agreement and instructions from the DFG Representative shall be  
5 considered authorized by DFG and the Conservancy and/or DTSC.

6 25. The Trustee shall make disbursements from the Trust only when the DFG  
7 Representative has submitted to the Trustee a written authorization for the disbursements  
8 approved by DFG and the Conservancy for Restoration Projects or by DTSC for  
9 Supplemental Environmental Projects in accordance with paragraph 23.

10 **PAYMENT OF TRUST EXPENSES AND DISBURSEMENT OF FUNDS**

11 26. The Trustee shall receive, at the time funds are transferred to the Trust, an  
12 initial administrative overhead reimbursement equal to two percent (2%) of the total funds  
13 transferred to the Segregated Account. The uses of these funds include expenses for day to  
14 day management of the Trust; initial bank charges for establishment of the Trust and bank  
15 charges for the first year; and for personnel time for tracking, managing, and making  
16 disbursements from the Trust. This initial administrative fee shall be made from the corpus  
17 of the Trust. There shall be no liability for payment by Unocal beyond the Settlement Funds  
18 required to be paid into this Trust pursuant to the Stipulated Judgment. The Trustee shall  
19 make no charge against Unocal for the establishment of this Trust, and except as provided in  
20 paragraph 27, no additional charges or deductions shall be made against the corpus of the  
21 Trust in connection with the Administration of the Trust.

22 27. The Trustee will be reimbursed for extraordinary expenses not contemplated to  
23 be incurred as part of normal management of the Trust, as set forth in paragraph 26,  
24 provided such expenses are reasonable and actual expenses approved in writing by DFG and  
25 the Conservancy and/or DTSC. Bank charges for the Trust after the first year may be paid  
26 from interest collected on the Trust. For the first three years following deposit of funds into  
27 the Trust, annual bank charges shall not exceed .025% of the corpus of the Trust.



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**EFFECTIVE DATE**

33. The Trust shall become effective upon transfer of settlement funds to the Trustee pursuant to the Stipulated Judgment.

**TERMINATION**

34. The Trust shall terminate when all funds subject to the Trust have been disbursed and DFG, the Conservancy and DTSC agree to termination in writing.

**FOR UNOCAL**

Dated: 7/20/98 By:   
PAUL T. WEST, General Manager  
California Operating Services  
Unocal Corporation

**FOR DFG**

Dated: \_\_\_\_\_ By: \_\_\_\_\_  
PETE BONTADELLI, Administrator  
Office of Oil Spill Prevention and Response  
California Department of Fish and Game

**FOR THE CONSERVANCY**

Dated: \_\_\_\_\_ By: \_\_\_\_\_  
WILLIAM AHEARN, Executive Officer  
California State Coastal Conservancy

**FOR DTSC**

Dated: \_\_\_\_\_ By: \_\_\_\_\_  
JESSE HUFF, Director  
California Department of Toxic Substances Control

**FOR THE FOUNDATION**

Dated: \_\_\_\_\_ By: \_\_\_\_\_  
AMOS S. ENO  
Executive Director

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**TERMINATION**

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**FOR UNOCAL**

Dated: \_\_\_\_\_ By: \_\_\_\_\_  
PAUL T. WEST, General Manager  
California Operating Services  
Unocal Corporation

**FOR DFG**

Dated: 7/20/98 By: *Pete Bontadelli*  
PETE BONTADELLI, Administrator  
Office of Oil Spill Prevention and Response  
California Department of Fish and Game

**FOR THE CONSERVANCY**

Dated: \_\_\_\_\_ By: \_\_\_\_\_  
WILLIAM AHEARN, Executive Officer  
California State Coastal Conservancy

**FOR DTSC**

Dated: \_\_\_\_\_ By: \_\_\_\_\_  
JESSE HUFF, Director  
California Department of Toxic Substances Control

**FOR THE FOUNDATION**

Dated: \_\_\_\_\_ By: \_\_\_\_\_  
AMOS S. ENO  
Executive Director

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**EFFECTIVE DATE**

33. The Trust shall become effective upon transfer of settlement funds to the Trustee pursuant to the Stipulated Judgment.

**TERMINATION**

34. The Trust shall terminate when all funds subject to the Trust have been disbursed and DFG, the Conservancy and DTSC agree to termination in writing.

**FOR UNOCAL**

Dated: \_\_\_\_\_ By: \_\_\_\_\_  
PAUL T. WEST, General Manager  
California Operating Services  
Unocal Corporation

**FOR DFG**

Dated: \_\_\_\_\_ By: \_\_\_\_\_  
PETE BONTADELLI, Administrator  
Office of Oil Spill Prevention and Response  
California Department of Fish and Game

**FOR THE CONSERVANCY**

Dated: 7/20/98 By: William Ahern  
WILLIAM AHERN, Executive Officer  
California State Coastal Conservancy

**FOR DTSC**

Dated: \_\_\_\_\_ By: \_\_\_\_\_  
JESSE HUFF, Director  
California Department of Toxic Substances Control

**FOR THE FOUNDATION**

Dated: \_\_\_\_\_ By: \_\_\_\_\_  
AMOS S. ENO  
Executive Director

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Dated: \_\_\_\_\_ By: \_\_\_\_\_  
PAUL T. WEST, General Manager  
California Operating Services  
Unocal Corporation

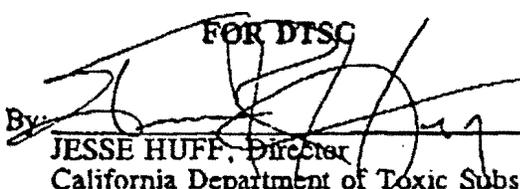
**FOR DFG**

Dated: \_\_\_\_\_ By: \_\_\_\_\_  
PETE BONTADELLI, Administrator  
Office of Oil Spill Prevention and Response  
California Department of Fish and Game

**FOR THE CONSERVANCY**

Dated: \_\_\_\_\_ By: \_\_\_\_\_  
WILLIAM AHERN, Executive Officer  
California State Coastal Conservancy

**FOR DTSC**

Dated: 7/20/98 By:   
JESSE HUFF, Director  
California Department of Toxic Substances Control

**FOR THE FOUNDATION**

Dated: \_\_\_\_\_ By: \_\_\_\_\_  
AMOS S. ENO  
Executive Director

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7 **FOR UNOCAL**

8 Dated: \_\_\_\_\_ By: \_\_\_\_\_  
9 PAUL T. WEST, General Manager  
10 California Operating Services  
Unocal Corporation

11 **FOR DFG**

12 Dated: \_\_\_\_\_ By: \_\_\_\_\_  
13 PETE BONTADELLI, Administrator  
14 Office of Oil Spill Prevention and Response  
California Department of Fish and Game

15 **FOR THE CONSERVANCY**

16 Dated: \_\_\_\_\_ By: \_\_\_\_\_  
17 WILLIAM AHERN, Executive Officer  
18 California State Coastal Conservancy

19 **FOR DTSC**

20 Dated: \_\_\_\_\_ By: \_\_\_\_\_  
21 JESSE HUFF, Director  
22 California Department of Toxic Substances Control

23 **FOR THE FOUNDATION**

24 Dated: 7/20/98 By: *Eri Hamner*  
25 for AMOS S. ENO  
26 Executive Director  
27

**EXHIBIT B**

1 **GUADALUPE OIL FIELD SETTLEMENT**  
2 **WATER QUALITY PROJECT TRUST**

3 This Trust is established with the National Fish and Wildlife Foundation (the  
4 "Foundation") by Unocal for the benefit of the California Regional Water Quality Control Board,  
5 Central Coast Region ("RWQCB") on behalf of the People of the State of California.

6 **PURPOSE**

7 1. The purpose of this Agreement is to establish the Guadalupe Oil Field Settlement  
8 Water Quality Project Trust ("Trust") and to appoint the Foundation as its Trustee. This  
9 Agreement outlines the terms under which the Foundation shall exercise this function.

10 2. The purpose of the Trust is to receive, manage and disburse funds, in accordance  
11 with the direction of the RWQCB for certain water quality projects to be selected by the  
12 RWQCB in accordance with the provisions of this Trust.

13 3. This Trust is created pursuant to the Settlement Agreement and Judgment reached  
14 by the parties People v. Unocal, San Luis Obispo County Superior Court No. CV 075194  
15 concerning diluent (a type of petroleum product) discharges to soil, ground water and surface  
16 waters including the Santa Maria River and Estuary and the Pacific Ocean at Guadalupe Oil  
17 Field by Unocal. ("Stipulated Judgment"). The Stipulated Judgment requires Unocal to  
18 undertake certain site investigation and remediation activities and to make monetary payments,  
19 which include, among other things, funding supplemental environmental projects that benefit  
20 water quality. This Trust is created in order to administer the funds for the supplemental  
21 environmental projects to be administered by the RWQCB. For the purpose of this Trust, the  
22 term "settlement funds" means the

23 4. For the purpose of this Trust the term "water quality projects" means: projects  
24 that directly benefit or study ground water or surface water quality and the beneficial use of  
25 ground water or surface water. Types of projects that would fall within this definition include,  
26 but are not limited to: water quality/water pollution monitoring programs (including long term  
27 regional monitoring), studies or investigations; treatment of polluted soils, ground water or

1 surface water; restoration of and augmentation of aquatic and riparian and watershed habitat;  
2 water pollution prevention; wetlands protection, studies, investigations, restoration, or  
3 augmentation of marine and coastal habitat and waters; enhancement, restoration, or creation of  
4 wetlands, aquatic habitat, and marine habitat; and conservation easement purchase, improvement  
5 and management needed to protect or improve water quality or the beneficial uses of ground  
6 water or surface water; study water quality impacts on endangered species (wildlife and flora),  
7 address water rights for aquatic or wildlife habitat, municipal supply or other beneficial uses as  
8 a water quality issue, projects to mitigate the impacts of water pollution; stream augmentation;  
9 waste water reclamation; and planning, feasibility studies, oversight and other activities needed  
10 to support the projects that have been selected for funding, including the costs of the RWQCB  
11 incurred in the selection of projects for funding.

#### 12 **SETTLOR**

13 5. Unocal shall fund this Trust with certain settlement funds pursuant to a  
14 requirement in the Stipulated Judgment. With the exception of the obligation to establish this  
15 Trust, Unocal shall have no rights, duties, obligations, fiduciary or financial responsibilities of  
16 any kind in connection with this Trust. Without limiting the foregoing, Unocal shall have no  
17 rights, duties, obligations, fiduciary or financial responsibilities with respect to the management  
18 of this Trust, the use of funds held in this Trust, property acquired with Trust funds, or water  
19 quality projects funded by the Trust. This Trust is irrevocable and Unocal retains no interest  
20 whatsoever in the corpus or proceeds of this Trust.

#### 21 **TRUSTEE**

22 6. The Foundation shall be Trustee of the Trust.

23 7. The Foundation and/or any successors appointed by RWQCB, submits to the  
24 jurisdiction of the San Luis Obispo County Superior and Municipal Courts ("the Court") for  
25 purposes of enforcement and supervision of the Trust.

26 8. The RWQCB shall have the power to appoint a replacement Trustee if the office  
27 of the Trustee becomes vacant.





1 and capacity to carry out the project. After the first round of project selection, the RWQCB  
2 may review and modify these criteria from time to time. The RWQCB may only select projects  
3 to be implemented within its geographical jurisdiction. The RWQCB may select projects that  
4 will be implemented by the RWQCB.

5 20. RWQCB shall appoint a representative ("RWQCB Representative") for purposes  
6 of communicating with the Foundation regarding management of the Trust and disbursements  
7 from the Trust to facilitate Restoration Projects selected by RWQCB. RWQCB shall give the  
8 Trustee Representative written notice of the name, address, and telephone number of the  
9 RWQCB Representative. Any action taken by the Trustee in strict accordance with this Trust  
10 Agreement and written instructions from the RWQCB Representative shall be considered  
11 authorized by the RWQCB.

12 21. The Trustee shall make disbursements from the Trust only when the RWQCB  
13 Representative has submitted to the Trustee an original signed written authorization for the  
14 disbursements approved by the RWQCB.

15 **PAYMENT OF TRUST EXPENSES AND DISBURSEMENT OF FUNDS**

16 22. The Trustee shall receive, at the time funds are transferred to the Trust, an initial  
17 administrative overhead reimbursement equal to two percent (2%) of the total funds transferred  
18 to the Segregated Account. This initial administrative fee will be the sole charge for the cost  
19 of day to day management of the Trust, initial bank charges for establishment of the Trust and  
20 charges for the first year, and for personnel time for tracking, managing, and making  
21 disbursements from the Trust. This initial administrative fee shall be paid from the corpus of  
22 the Trust. There shall be no liability for payment by Unocal beyond the money paid pursuant  
23 to paragraph 4.3 of the Stipulated Judgment comprised of the following: \$15,000,000.00 for  
24 supplemental environmental projects; and half of the interest earned in escrow less escrow fees  
25 and half of any amount remaining from the sum designated to pay costs incurred by DFG and/or  
26 its designees. The Trustee shall make no charge against Unocal for the establishment of this  
27 Trust, and except as provided in paragraph 23, below, no additional charges or deductions shall

1 be made against the corpus of the Trust in connection with the Administration of the Trust.

2 23. The Trustee will be reimbursed for extraordinary expenses not contemplated to  
3 be incurred as part of normal management of the Trust, as set forth in paragraph 22, provided  
4 such expenses are reasonable and actual expenses approved in writing by the RWQCB. Bank  
5 charges for the Trust after the first year may be paid from interest collected on the Trust. For  
6 the first three years following deposit of funds into the Trust, annual bank charges shall not  
7 exceed .025% of the corpus of the Trust.

8 23. Upon receipt from the RWQCB representative of the written approval by RWQCB  
9 to fund water quality projects selected pursuant to paragraph 19 above, the Trustee is authorized  
10 and obliged to disburse funds in the Segregated Account as directed by the RWQCB.

11 24. Nothing in this Agreement shall create any rights or causes of action in persons  
12 who are not signatories to this Agreement.

#### 13 AMENDMENTS

14 25. This Agreement may be amended only by written agreement of the Foundation  
15 and RWQCB.

#### 16 NOTICES

17 26. Notices under this Agreement shall be made in writing and may be given by  
18 delivery in person, by mail or by telecopy (fax).

19 27. Notices to the RWQCB shall be sent to:

20 Roger Briggs, Executive Officer  
21 Regional Water Quality Control Board, Central Coast Region  
22 81 Higuera Street, Suite 200  
23 San Luis Obispo, CA 93401-5427  
24 Phone: (805) 549-3147  
25 Fax: (805) 549-0397

26 28. Notices to the Foundation shall be sent to:

27 Eric Hammerling  
National Fish and Wildlife Foundation  
116 New Montgomery St., Ste 203  
San Francisco, CA 94105  
Phone: (415) 778-0999  
Fax: (415) 778-0998

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29. The Trust shall become effective upon transfer of settlement funds to the Trustee pursuant to the Stipulated Judgment.

**TERMINATION**

30. The Trust shall terminate when all funds subject to the Trust have been disbursed and the parties, excluding Unocal, agree to termination in writing.

**FOR UNOCAL CORPORATION**

Dated: 7/20/98 By: 

Paul T. West  
General Manager  
California Operating Services

**FOR RWOCE**

Dated: \_\_\_\_\_ By: \_\_\_\_\_

Roger Briggs  
Executive Officer

**FOR THE FOUNDATION**

Dated: \_\_\_\_\_ By: \_\_\_\_\_

Amos S. Eno  
Executive Director

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Dated: \_\_\_\_\_ By: \_\_\_\_\_  
Paul T. West  
General Manager  
California Operating Services

FOR RWOCEB

Dated: 7-20-98 By: Paul Joppa  
Roger Briggs  
Executive Officer

FOR THE FOUNDATION

Dated: \_\_\_\_\_ By: \_\_\_\_\_  
Amos S. Eno  
Executive Director

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Dated: \_\_\_\_\_ By: \_\_\_\_\_  
Paul T. West  
General Manager  
California Operating Services

FOR RWOCB

Dated: \_\_\_\_\_ By: \_\_\_\_\_  
Roger Briggs  
Executive Officer

FOR THE FOUNDATION

Dated: 7/20/98 By: *Eric Hansen*  
for Amos S. Eno  
Executive Director

1 UNION OIL COMPANY OF CALIFORNIA, dba  
2 UNOCAL, a California Corporation, and  
3 UNOCAL CORPORATION, a Delaware Corporation

4 DATED: \_\_\_\_\_

5 PAUL T. WEST, General Manager  
6 California Operating Services  
7 Unocal Corporation

8 DATED: \_\_\_\_\_

9 DANIELE FACCHINI  
10 Assistant Secretary  
11 Unocal Corporation

12 On Behalf of All Defendants

13 Counsel for Defendants:

14 DATED: \_\_\_\_\_

15 MARK A. SMITH, ESQ.,  
16 Assistant General Counsel  
17 UNOCAL CORPORATION

18 DATED: 7/17/98

19 Patrick J. Cafferty, Jr.  
20 PATRICK J. CAFFERTY, JR., ESQ.  
21 MUNGER, TOLLES & OLSON LLP

22 Counsel for Defendants Union Oil Company of California,  
23 dba UNOCAL, and Unocal Corporation

24 Having considered the settlement terms set forth in this Stipulated Judgment and good cause  
25 appearing therefore, IT IS SO ORDERED, ADJUDGED, AND DECREED.

26 DATED: JUL 22 1998

27 **JAMES D. REAM**  
28 By: \_\_\_\_\_  
HONORABLE BARRY C. HAMMER  
JUDGE OF THE SUPERIOR COURT



**EXHIBIT E**  
**CONDITIONS OF APPROVAL**  
**PAST REMEDIAL AND CHARACTERIZATION PROJECTS**

EXHIBIT 8 E-99-009

**APPROVED USE**

1. This Coastal Development Permit/Development Plan authorizes the following work that was completed by emergency permits pursuant to either Coastal Zone Land Use Ordinance section 23.03.045 or the Coastal Act between March 1990 and November 1997:
  - a. SLO P890275E .....Installation of Bentonite Wall
  - b. SLO P890275E (Modification #1).....Installation of PVC Barrier
  - c. SLO P890275E (Modification #2).....Installation of Fish & Game Wells
  - d. SLO P890275E (Modification #3).....Installation of Pilot Recovery System
  - e. SLO P890275E (Modification #4).....5X Excavation Support Facilities
  - f. SLO P890275E (Modification #5).....5X Excavation Support Facilities
  - g. CCC E-94-12 .....5X Beach Excavation Project
  - h. SLO P890275E (Modification #6).....Installation of Monitoring Wells
  - i. SLO P890275E (Modification #7).....Installation of Biosparging Wells
  - j. CCC E-95-18-G .....Leroy 2 Sump Removal
  - k. CCC E-97-03-G .....Installation of Sheetpile Wall
  - l. SLO P970369E .....7X Excavation
  - m. CCC E-98-09-G .....A2A Excavation
2. The conditions attached to these Emergency Permits are incorporated by reference herein as though set forth in full.
3. Unocal shall implement Condition No. 21 from the Coastal Commission Emergency Permit E-97-03-G requiring an ongoing monitoring program for the sheetpile wall.
4. The 5X sheetpile wall shall be removed at the earliest opportunity following excavation of the 5X plume.
5. In conjunction with the routine surveys of beach transects at the 5X beach (E-97-03-G, Condition 21) a control site north of the sheetpile wall and a test site at the wall shall be compared on an annual basis, using data collected at the end of summer after the natural beach replenishment cycle. Differences in cross-sectional area must be converted to a

volume and a replenishment program will be initiated. Sand used for replenishment shall be of compatible grain size (i.e., within 10 percent for each grain size category), or overfill ratios will be applied using the Shore Protection Manual procedures. Implementation of the sand replenishment program will depend on whether there is water directly in front of the wall:

- a. If there is water in front of the wall a credit program will be established whereby the sand required for replenishment is made available, but stockpiled on a cumulative basis for future use. Currently disturbed areas will be used for stockpile sites. When the lagoon recedes, the sand shall be placed on the beach to rebuild the beach to natural grade. Sufficient sand will be made available to cover the top of the sheetpile wall to a depth of at least two feet.
- b. If there is no lagoon or water in front of the wall, the sand replenishment shall be conducted as soon as the need is identified.

Sediment grain-size analysis of the removed and replacement material shall be conducted, recorded and submitted to County Department of Planning and Building and the Executive Director of the Coastal Commission for review and approval unless Unocal demonstrates to the reviewing agencies' satisfaction that grain size is not a concern for any particular excavation due to the backfill sequence or excavation location. No filling of an excavated area shall occur until the grain-size compatibility between the removed sediment and the replacement sediment is approved by the County Department of Planning and Building and the Executive Director of the Coastal Commission. To evaluate replacement material suitability, Unocal shall provide the County and the Executive Director of the Coastal Commission the following information:

- Source of replacement material;
  - Volume of replacement material needed;
  - Sieve analyses for all possible replacement material and native sands (16<sup>th</sup>, 50<sup>th</sup>, and 87<sup>th</sup> percentile grain sizes by weight, at a minimum);
  - Overfill ratio; and
  - Color analysis and color sample of all replacement and native material.
6. The access road which was cleared for the Leroy 2 sump removal shall be restored to conditions immediately prior to the excavation project to the extent feasible.
  7. If required by RWQCB, Unocal shall monitor wells in close proximity to the edges of the sheet pile wall, as well as up- and down-gradient of the wall to compare vertical gradients below the wall to those above. This will assist in determining the flow paths in the vicinity of the wall and the amount of water containing diluent flowing around, below and through the sheetpile wall. The extraction system shall be re-evaluated semi-annually to ensure the continued efficiency of the capture zones and control of the movement of

- free product. Extraction well pump rates shall be increased in the event that water elevations behind the wall exceed current levels. Similar action shall be taken if diluent flowing around or through the wall rises above current levels.
8. Prior to issuance of the grading permit for the 5X excavation, or Notice To Proceed for any control and/or treatment system, Unocal shall submit to the County Department of Planning and Building and the RWQCB for review and approval a comprehensive Inspection and Maintenance (I and M) program for all control and treatment systems. Monitoring systems shall be installed on any critical process that, in the event of a failure, would result in the loss of hydraulic control of the separate-phase plumes or a shut down of a biosparge system. As with the existing extraction wells at the 5X site, these monitoring systems shall be checked daily.
  9. Unocal shall develop an Emergency Response Plan for the site that includes response procedures that provide for any release that may occur from the 5X plume. In addition, appropriate oil-spill response equipment shall be maintained on site throughout the operational life of the wall. This equipment shall be capable of containing and skimming separate-phase diluent from river water prior to discharge to coastal waters or migration to the upper reaches of the lagoon.
  10. Remedial actions for the C12 plume, as approved by the RWQCB, shall be implemented to remove the source of contamination and control the migration of dissolved-phase diluent.
  11. For each area that was disturbed as a result of remediation activities allowed under emergency permits, Unocal shall submit a site-specific Habitat Restoration, Revegetation, and Monitoring Plan as described in Condition F64, excluding those pre-disturbance provisions that can not be complied with because of the emergency nature of the remediation activities. Available pre-disturbance information collected at the sites of disturbance or at nearby sites in similar habitat shall be included. Prior to September 1, 1999, these Plans shall be submitted for review and approval by the County Department of Planning and Building and the Executive Director of the Coastal Commission.
  12. During the breeding and nesting season (March 1 – September 15), Unocal shall protect existing snowy plover breeding habitat by posting signs and excluding vehicle, pedestrian and, to the extent feasible, domestic animal traffic. Exceptions must be approved by the U.S. Fish and Wildlife Service and the Onsite Environmental Coordinator must be immediately notified.
  13. Unocal shall (a) continue to enforce access limitations to the 5X area for maintenance of monitoring equipment so as to minimize impacts on sensitive species during the breeding season and (b) implement a training program for all personnel visiting the 5X Beach area

which includes specific information on California snowy plovers, their habitat requirements and breeding behavior.

14. Whenever the Santa Maria River flows along the beach, Unocal shall monitor the river bank on the southeast corner of the sheetpile wall for erosion and loss of habitat and submit monthly a report to the County Department of Planning and Building, the Coastal Commission, the Santa Barbara County Energy Division, RWQCB, CDFG/OSPR and USFWS so that a record may be kept and a third-party expert can be hired to assess damage and suggest appropriate restoration measures. Lost habitat shall be compensated for by restoration of degraded foredune habitat in the vicinity of the 5X area.
15. For those sections of the 5X sheetpile wall that are not scoured, Unocal shall ensure that the wall is covered with sand and is not visible from the beach.
16. Prior to implementation of CAO No. 98-38 for the Guadalupe Oil Field, Unocal, in collaboration with the San Luis Obispo APCD, shall investigate the feasibility of retrofitting construction equipment to be used for remediation with low-NOx technologies such as high pressure injectors, injection timing retard, and/or pre-chamber diesel engines.

#### **PUBLIC ACCESS**

17. **Prior to issuance of a construction permit for Stage 1, Unocal shall fund the community outreach and education programs described in the Nature Conservancy's Guadalupe-Nipomo Dunes Vision Statement for a period of three years which at a minimum shall include:**
  - a. Operating Dunes Discovery Center
  - b. Recruiting and training skilled volunteers
  - c. Sponsoring community activities
  - d. Managing and coordinating outreach and education programs

#### **ENVIRONMENTAL ENHANCEMENT EASEMENTS**

18. Due to the long term nature of the past remediation projects including installation of the bentonite wall, installation and operation of beach extraction wells, the 5X beach excavation, the three phase installation of the protective sheetpile wall, the Leroy 2 sump excavation, the 7X excavation, the A2A and associated sump excavations, and the significant, unavoidable environmental impacts (Class I) of these past projects, additional mitigation beyond that cited in the certified Final EIR is required.

Refer to the condition of approval No. 110 in Exhibit F for the Phase I remediation project for implementation of the easements.

#### ENFORCEMENT

19. Failure to satisfy the requirements of any condition of this permit shall constitute a violation under the Coastal Act enforceable by all appropriate means including but not limited to, a cease and desist or a restoration order issued by the Coastal Commission.

**EXHIBIT F — D890558D**  
**CONDITIONS OF APPROVAL**  
**PHASE I REMEDIATION PROJECTS**

**APPROVED PROJECT**

1. This Coastal Development Permit/Development Plan (CDP/DP) approval authorizes Unocal to conduct remediation and site characterization activities at the Guadalupe oil field consistent with the California Regional Water Quality Control Board's (RWQCB) **Cleanup or Abatement Order No 98-38** adopted by the RWQCB on April 3, 1998 and as amended on July 13, 1998 and November 6, 1998, and incorporated herein as though set forth in full. Specifically, this approval authorizes the following remediation project elements:
  - a. **Stage 1**
    - i. Excavation of separate-phase diluent at plume **M-4 (partial), L-11 (partial)**, to start by fourth quarter 1998 and be completed by the end of the fourth quarter 1999.
    - ii. Biosparging wells to be installed and operational at M4, L11, and TB8 by March 31, 1999 or as soon after that date as excavation activities allow. There will be three (3) horizontal biosparging well installed at M4 (post excavation), two (2) horizontal biosparging wells installed at L11 (post excavation); and three (3) horizontal biosparging wells installed at TB8.
    - iii. There will be pilot testing of dual pump recovery systems consisting of five (5) recovery wells installed at the Compressor Plant, five (5) wells installed at TB9 and a vacuum enhanced recovery system consisting of eight (8) wells at the Diluent Tank. All wells to be installed and operational by March 31, 1999.
    - iv. A Land Treatment Unit (LTU) at Tank Battery 9.
  - b. **Stage 2**
    - i. Excavation of separate-phase diluent at plume areas **5X and A2AN** to start by fourth quarter 1999 and be completed by the end of the fourth quarter 2000.
    - ii. Excavation of sumps in areas **5X, LeRoy 3, LeRoy 6, A2A, A1/2X and 8X** to start by the fourth quarter 1999 and be completed by the end of the fourth quarter 2000.

- c. **Stage 3**
    - i. Excavation of separate-phase diluent at plume **M2, B12, C12, and TB1** to start by second quarter 2000 and be completed by the end of the fourth quarter 2000.
    - ii. Excavation of sumps **B12, C12, B2/B2A, TB1, B1A, B11, D14 and A13X** to start by second quarter 2000 and be completed by the end of the fourth quarter 2000.
  - d. **Stage 4**
    - i. Excavation of separate-phase diluent at plume areas **A5A and C8** to start by fourth quarter 2000 and be completed by the end of the first quarter 2001.
    - ii. Two (2) horizontal biosparging wells at **C8/D8** (post excavation) to be installed and operational by March 31, 2001 or as soon after that date as excavation activities allow.
    - iii. Excavation of sump **A5** to start by fourth quarter 2000 and be completed by the end of the first quarter 2001.
  - e. **Stage 5**
    - i. Excavation of separate-phase diluent at plume areas **B2-3 and N12** to start by second quarter 2001 and be completed by the end of the third quarter 2001.
    - ii. Excavation of sump **B3/B3A** to start by second quarter 2001 and be completed by third quarter 2001.
  - f. **Stage 6**
    - i. Excavation of separate-phase diluent at plume areas **C7(S) and B6** to start by fourth quarter 2001 and be completed by the end of second quarter 2002.
2. If the RWQCB determines after excavation of plume TB1 that excavation is required at plume area C2, excavation of separate phase diluent shall start by fourth quarter 2001 and be completed by the end of the second quarter 2002. To include remedial projects not included in CAO No. 98-38, Unocal shall submit to the County Department of Planning and Building a written request pursuant to Condition 20 of this permit. This written request can be submitted in the form of an addendum to the Implementation Plan, a letter, or other document.

### **EXCAVATION MEAN CONCENTRATIONS**

3. The mean concentration of soil samples collected at the bottom of the excavations shall not exceed 700 mg/kg TPH. Concentrations of no more than 5% of samples collected at

the bottom of the excavations shall exceed 1,000 mg/kg TPH. The RWQCB shall determine compliance with this condition.

### **EXCAVATION SAMPLING**

4. Samples of the excavation bottoms shall be collected at 25 foot centers, or as directed in the field by RWQCB staff. Excavations shall not be backfilled until RWQCB approval. If concentrations in more than 5% of samples collected at the bottom of the excavations exceed 1000 mg/kg TPH after Unocal has removed as much degraded soil as reasonably practicable, the RWQCB, with the advice of other interested agencies, will decide if further excavation or other clean up actions must be conducted, or if the excavation may be backfilled.

### **LOCATION OF TEMPORARY SHEETPILE**

5. Temporary sheetpile shall be installed at each excavation site at least 15 feet outside the 1,000 mg/kg TPH contour as interpreted using data collected from soil borings. Exceptions to this criterion may be approved for plume sites by the Executive Officer (RWQCB) based on field information. Prior to sheetpile installation County Department of Planning and Building and the Executive Director of the Coastal Commission shall review and approve alternative sheetpile locations for compliance with mitigation measures and these conditions to ensure that site disturbance is minimized. The temporary sheetpile shall be removed immediately upon completion of each excavation and backfill.

Alternative methods to shore the excavation may be proposed to the County Planning Director in certain limited circumstances. Alternative methods must be shown to have no greater impact on environmentally sensitive habitat than a sheetpile shored excavation. The temporary shoring shall be removed immediately upon completion of each excavation and backfill.

### **POST-EXCAVATION GROUNDWATER MONITORING**

6. Post excavation groundwater monitoring shall be conducted pursuant to the requirements and direction of the RWQCB. Locations of monitoring wells shall be approved by County Department of Planning and Building for compliance with these conditions of approval.

### **CONTINUED SITE CHARACTERIZATION**

7. Unocal shall submit to the County Department of Planning and Building and the Executive Director of the Coastal Commission for review and approval procedures to protect terrestrial and other sensitive resources when accessing sites for continued site

characterization. Any site characterization activities that take place off of roads and pads shall, at a minimum, be proceeded with site specific botanical reconnaissance conducted by a botanist approved by the Planning Director and the Executive Director of the Coastal Commission. Sensitive species shall be located and avoided to the maximum extent feasible at characterization sites and access ways to off-road characterization sites. The reconnaissance practices shall be subject to oversight by the Onsite Environmental Coordinator and biological monitor. Results of site characterization prepared for the RWQCB shall be submitted to the County Department of Planning and Building and the Executive Director of the Coastal Commission when available.

8. CAO No. 98-38 includes design and development of three pilot studies to remediate separate phase diluent without excavation. Prior to initiation of pilot studies, Unocal shall submit the pilot plans to the County Department of Planning and Building, the Executive Director of the Coastal Commission and the CDFG/OSPR for review and approval to ensure compliance with these conditions of approval. Pilot studies may require additional environmental review and coastal land use permitting.

#### **SOIL MANAGEMENT**

9. Prior to the commencement of each stage Unocal shall submit to the County Department of Planning and Building for review and approval a time schedule and plan of excavation site sequencing. To reduce the length of exposure time of the excavated and soil storage areas, the clean overburden shall be used to immediately fill the cavity or clean sediment from a similar site shall be used to replace the excavated soil.
10. Unocal shall stockpile clean top soil and clean overburden soil in previously disturbed areas, altered areas, or future excavation areas or in unvegetated areas to minimize impacts to erosion/sedimentation patterns. Proposed clean soil and clean overburden soil storage areas shall be prepared in a similar manner as the excavated area. This preparation shall include perimeter staking, brush raking, top soil removal and stockpiling, and protective measures to prevent erosion of the topsoil stockpile. All proposed stockpile areas and erosion control measures shall be reviewed and approved by the County Department of Planning and Building and the Executive Director of the Coastal Commission.
11. Unocal may stockpile contaminated soil at TB9 or TB8 pursuant to the *Former Guadalupe Oil Field Implementation Plan, May 15, 1998* (with subsequent amendments June 15, 1998 and October 27, 1998). Backfill sources for Stage 1-6 projects may include:
  - a. Treated soil that satisfies the RWQCB's parameters for concentrations of TPH and other constituents for approved backfill material.
  - b. Borrow site Q11.

- c. Borrow site Q4 may be used if approved by the County Department of Planning and Building after a site specific biological and geomorphological review of the site, conducted by a qualified geomorphologist approved by the County Planning Director and the Executive Director of the Coastal Commission. The report(s) of the site specific reviews may be subject to an independent peer review conducted by an expert retained by the County and funded by Unocal.
  - d. Clean material stockpiled on site from previous activities.
  - e. Material treated at an on-site thermal desorption unit that satisfies the RWQCB's treatment parameters for approved backfill material.
12. Sediment grain-size analysis of the removed and replacement material for each excavation site shall be conducted, recorded and submitted to County Department of Planning and Building and the Executive Director of the Coastal Commission for review and approval unless Unocal demonstrates to the reviewing agencies' satisfaction that grain size is not a concern for any particular excavation due to the backfill sequence or excavation location. No filling of an excavated area shall occur until the grain-size compatibility between the removed sediment and the replacement sediment is approved by the County Department of Planning and Building and the Executive Director of the Coastal Commission. To evaluate replacement material suitability, Unocal shall provide the County and the Executive Director of the Coastal Commission the following information:
- Sources of possible replacement material;
  - Volume of replacement material needed;
  - Sieve analyses for all possible replacement material and native sands (16<sup>th</sup>, 50<sup>th</sup>, and 87<sup>th</sup> percentile grain sizes by weight, at a minimum);
  - Overfill ratio for sites subject to erosional forces by ocean waves and the river; and
  - Color analysis and color sample of all native material and replacement material that has a potential to become exposed.

Since the characteristics of the native material will vary throughout the site, this information must be provided, and compatibility must be determined for each excavation area.

## **WASTE DISPOSAL**

13. All wastes removed from the field, including but not limited to soil, petroleum and water shall be disposed of in accordance with all applicable laws and regulations.

## **SUMPS**

14. All sumps discovered as part of excavation activities shall be removed. CAO No. 98-38 requires Unocal to submit a report on all sumps and other waste management units located between the B Road and the ocean. Proposed sump remediation plans are to be submitted to the County Department of Planning and Building and the Executive Director of the Coastal Commission for review and approval. Sump remediation plans shall also be submitted to the Santa Barbara County Energy Division for review and approval if any sumps are located within Santa Barbara County's permitting jurisdiction. Additional environmental review and coastal land use permitting may be required prior to removal of any sump.

## **PERMIT TIME LIMITS**

15. This Coastal Development Permit/Development Plan approval is valid for a period of 24 months from the effective date of the decision. At the end of such time period, this Coastal Development Permit/Development Plan shall expire and become void unless:
  - a. Substantial site work toward establishing the authorized use has been performed pursuant to section 23.02.042 of the Coastal Zone Land Use Ordinance; or
  - b. The project is completed pursuant to section 23.02.050 of the Coastal Zone Land Use Ordinance; or
  - c. An extension has been granted pursuant to section 23.02.050 of the Coastal Zone Land Use Ordinance.
  - d. Operational elements of the project, such as biosparge wells, will be considered substantially complete once they are in operation. They may continue to operate as required.

## **TITLE 19 REQUIREMENTS**

16. All excavation projects approved as part of this permit are subject to the provisions of Title 19 of the County Code. Excavation projects shall not proceed until construction and/or grading permits are issued by the County Department of Planning & Building.
17. Unocal shall submit construction permit applications to the County Building Division for new electrical services to pumps, compressors, wells, and other equipment for review and approval.

## **PERMITTING**

18. Prior to issuance of a construction and/or grading permit for remediation activities for any stage, Unocal shall submit evidence to the County Department of Planning and

Building that permits from all regulatory agencies have been received for that stage of activities. These agencies include but are not limited to:

- a. Regional Water Quality Control Board
- b. California Dept. Of Fish & Game
- c. U.S. Army Corps of Engineers
- d. U.S. Fish & Wildlife Service
- e. California Coastal Commission
- f. State Lands Commission
- g. Air Pollution Control District
- h. Division of Oil & Gas and Geothermal Resources

### **PROJECT MONITORING**

19. **Prior to the issuance of a construction and/or grading permit for Stage 1, Unocal shall fund the hiring of an independent project monitor(s) to be selected by the County Department of Planning and Building, the RWQCB and the Executive Director of the Coastal Commission after consultation with Unocal and other permitting agencies. The monitor(s) shall be under contract with the County, to act as project monitor(s) and condition compliance inspector(s) for the County of San Luis Obispo, the RWQCB, the Coastal Commission and other permitting agencies. The monitor(s) shall prepare a specific mitigation tracking monitoring plan and submit it to the County Department of Planning and Building, the RWQCB, the Executive Director of the Coastal Commission and other permitting agencies for review and approval.**

### **CHANGES TO THE APPROVED PROJECT**

20. **To make changes to the approved project described above, Unocal shall submit to the County Department of Planning and Building a written request with supporting materials pursuant to 23.02.038 of the Coastal Zone Land Use Ordinance. The County Planning Director may approve a requested change upon verification of its conformity with Title 23, provided that such approval shall not modify the effective date of the land use permit. Major changes to the project, as determined by the County Planning Director, in consultation with the Executive Director of the Coastal Commission, shall be requested through a CDP/DP modification application for Planning Commission consideration. Unocal shall send a copy of all proposed project amendments to the Executive Director of the Coastal Commission concurrent with its submittal to the County. This condition shall be implemented by Unocal throughout the project.**

## **SINGLE POINT OF CONTACT**

21. Prior to issuance of a grading permit for each stage, Unocal shall designate a single point of contact to address compliance with these conditions. The County Department of Planning and Building shall also designate a single point of contact and will request the same from other regulatory agencies.

## **INDEMNIFICATION**

22. Unocal shall, as a condition of approval of this Coastal Development Permit/Development Plan defend, at its sole expense, any action brought against the County of San Luis Obispo, its present or former officers, agents, or employees, by a third party challenging either its decision to approve and issue this Coastal Development Permit/Development Plan or the manner in which the County is interpreting or enforcing the conditions of this Development Plan, or any other action by a third party relating to approval or implementation of this Development Plan. Unocal shall reimburse the County for any court costs and attorney's fees which the County may be required by a court to pay as a result of such action, but such participation shall not relieve Unocal of its obligation under this condition.

## **GEOLOGY**

23. At a minimum, Unocal shall implement some or all of the following measures at any time when sustained wind speeds exceed 20 knots (25 mph) and when the independent Onsite Environmental Coordinator or SLOAPCD determines that an excessive amount of wind erosion is occurring to stockpiles or borrow sites, disturbed areas or other portions of the work site:
  - a. Water shall be applied to areas generating eroding areas.
  - b. Activities that increase erosion shall cease until conditions change.
  - c. Other anti-erosive measures approved by the SLOAPCD are implemented.
24. The sheetpile walls shall be monitored during excavation to provide early detection of any movements. If movements occur, the excavation sequence or excavation area shall be adjusted to prevent large displacements.
25. Unocal shall design all sheetpile walls with appropriate safety factors to account for earth pressures, hydraulic head, earthquake loading, equipment loading, and other design features, as appropriate. As part of the grading permit approval, engineering designs for excavation and sheetpile shall (a) be prepared and certified by a licensed civil engineer; (b) conform to Cal/OSHA and County of San Luis Obispo regulations for excavation, shoring and backfill; and (c) be submitted to the County Department of Planning and Building and the Executive Director of the Coastal Commission for review and approval.

26. For all sheetpile that has the potential to be exposed to currents, wave forces or to direct inundation from either the Santa Maria River or the Pacific Ocean, the seaward edge of the sheetpile and any associated energy dissipation system (which shall be limited to sand berms or sand bags constructed or filled using imported sand or sand from approved borrow areas) shall be designed to withstand the appropriate significant storm conditions as follows:
- a. Excavation activities shall employ appropriate engineering controls and procedures to prevent the release of hydrocarbons to the environment in the event of overtopping or flooding. These controls shall be included in the oil and fuel contingency plan required in Condition 38.
  - b. For all sheetpile and associated energy dissipation systems for excavation sites other than 5X, design conditions shall be specified, in detail, on the engineering plans. The engineering plans shall be submitted to the County Department of Planning and Building and the Executive Director of the Coastal Commission for review and approval.
  - c. The sheetpile for the 5X plume shall be designed to withstand the March 1, 1983, wave conditions (noted as the 100-year storm event), resulting in a maximum wave run-up height of 8 feet, combined with a 7-foot astronomical tide, and a scour depth of 0.0 feet (local Guadalupe datum). Engineering designs for the 5X sheetpile and associated energy dissipation system shall be submitted to the County Department of Planning and Building and the Executive Director of the Coastal Commission for review and approval.
27. In the event of a tsunami warning, all personnel and all movable construction equipment shall be removed from the beach area and moved to a safe elevation, based upon the warning. If no elevation is given in the warning, all personnel shall be evacuated to an elevation at or greater than 100' MSL and movable equipment shall be moved to or above the "B" road. If equipment cannot be moved within the time allowed by a tsunami warning, to the extent safe and feasible, equipment shall be secured or anchored, and efforts shall be made to remove or drain all fuel tanks and to take all safe steps to prevent marine releases of hydrocarbons.
28. All piping located within 300 feet of the ocean or in a location where the surface drainage would direct the flow toward the ocean shall be securely anchored.

### **MARINE, SURFACE AND GROUNDWATER QUALITY**

29. During the 5X excavation, Unocal shall, with oversight by the independent Onsite Environmental Coordinator, collect weekly samples of ocean water, interstitial water, and sediments at the point of ground water discharge at low tide on the sandy beach and analyze them for elevated hydrocarbon concentrations per the direction of the CDFG/OSPR. The results shall be provided to CDFG/OSPR within 24 hours of sample

- collection. If CDFG/OSPR determines that 5X excavation activities are causing, or have a high likelihood to cause, marine discharges of hydrocarbons, all activities shall cease until the CDFG/OSPR, the County Department of Planning and Building, the Executive Director of the Coastal Commission and other affected agencies in consultation with Unocal determine how the excavation activities can be conducted without causing additional discharges.
30. As part of design review and prior to issuance of a grading permit for each excavation project, Unocal shall obtain a NPDES Construction Storm Water Activity Permit from the RWQCB. Unocal's Pollution Prevention Plan shall specify Best Management Practices (BMP) to reduce erosion of disturbed soils within construction staging areas. These may include, but are not limited to: utilization of hay bales, silt fences, sediment traps, coffer dams, and containment berms. Chemical soil stabilizers shall not be used unless specifically authorized by the RWQCB and SLOAPCD.
  31. Drilling of biosparge wells shall include use of proper equipment, such as roll-off containers and vacuum trucks to contain spoils and wastewater generated by the drilling process. All drilling shall be conducted in accordance with Unocal's NPDES Storm Water Construction Activity Permit.
  32. Monitoring wells or piezometers shall be installed adjacent to the wetlands and dune slacks to monitor the amount of drawdown that occurs with pumping. If drawdown exceeds levels established as the limits of natural variability, pumping rates shall be lowered and alternative methods of containment shall be evaluated. Monitoring frequency for long and short term impacts such as drawdown/dewatering shall be determined by the RWQCB.
  33. Unocal shall sample surface waters for BTEX and TPH as part of a regular monitoring program. The remedial activities mandated in CAO No. 98-38 are designed to prevent transport of dissolved phase contamination to surface waters. Monitoring of long term impacts of remediation such as construction and operation, or long term dewatering shall be done quarterly. Monitoring for short term impacts such as excavation shall be done weekly. In the event the proposed remedial activities do not prevent increased contaminant concentrations in surface waters, the RWQCB has reserved the right to require Unocal to undertake additional actions to eliminate or reduce to the extent possible, discharges to all surface water as soon as possible. Unocal shall submit any additional proposed remedial actions to the County Department of Planning and Building for review and approval pursuant to Condition 20.
  34. Prior to issuance of grading permits for any/all excavations a lateral and vertical assessment of hydrocarbon-affected soils shall be conducted to assess the dimensions of the excavated area. This program shall be consistent with the assessment activities conducted for the 7X excavation. If assessment activities determine the plume is larger

- than shown in construction drawings or if any new affected soils are identified (such as sumps), the County Department of Planning and Building in consultation with the Executive Director of the Coastal Commission pursuant to Condition 20 of this permit will determine if the changes are substantial enough to require additional environmental review and coastal land use permitting.
35. Compounds designed to enhance biological degradation of remaining hydrocarbons, such as nutrients and oxygen-releasing substances, shall be added to the excavations before backfilling. The types and amounts of such compounds to be added shall be determined on a general site wide basis by Unocal and approved by the RWQCB before excavation.
  36. Near construction activities which have the potential of increasing water turbidity, Unocal shall monitor the Santa Maria River and surface water bodies for turbidity weekly during construction activities to determine whether construction is increasing turbidity. Prior to construction activities, turbidity shall be monitored at the proposed construction sites and, in the case of activities near the river, at a nearby control site in the river upstream from the project. These sites will also be monitored during construction activities. If there is a visible turbidity plume emanating from the construction site or if there is a measured relative increase in turbidity levels near the construction site of 20 percent or more, construction activities shall be halted until remedial actions can be taken. Similar monitoring shall be conducted at all locations where construction activities are planned within 100 ft of surface water resources.
  37. Equipment and materials, particularly materials that can cause turbidity and sedimentation, shall be stored inside bermed areas where surface runoff can be controlled and kept away from surface water.
  38. Prior to conducting any remediation or abandonment activities, Unocal shall submit to the County Department of Planning and Building and the Executive Director of the Coastal Commission a CDFG/OSPR-approved final oil and fuel spill contingency plan that includes but is not necessarily limited to the following provisions:
    - a. Identification of HAZWOPER-certified personnel to deploy emergency response equipment;
    - b. Adequate oil spill cleanup and containment equipment maintained on site to respond to the first two hours of a spill until Clean Seas Cooperative reaches the site;
    - c. Secondary containment for parked construction equipment and fuel storage vessels. Proper containment techniques including plastic sheeting, sorbent pads and booms, and vacuum trucks shall be used when cutting or draining pipelines. All purge water and waste oil shall be disposed at a NPDES or other type of permitted facility. All storage vessels used for temporary containment of contaminated ground water or recovered product shall have adequate containment

- structures in place so that potentially spilled materials will not impact adjacent water resources;
- d. A wildlife contingency plan that specifies measures to deter animals from the remediation/abandonment sites and provide care for animals that became oiled or injured during remediation/abandonment activities;
  - e. Offshore emergency oil spill cleanup equipment, including skimmers and boom, staged onsite during remediation/abandonment activities at sites 5X, A2A, A5A, 8X, A8, C7 and C8;
  - f. Staging, fueling, equipment and materials storage areas and soil stockpiles shall be located at least 100' away from surface water bodies or inside bermed areas to prevent releases into surface waters;
  - g. Immediate notification to the CDFG/OSPR, the County Department of Planning and Building, the RWQCB, the USFWS and the Executive Director of the Coastal Commission if any sheen, foam or other contaminated material is detected in the Santa Maria River or ocean. Containment boom shall be stockpiled in close proximity and ready for immediate deployment if directed by the CDFG/OSPR or the USFWS. The foam and visible film shall be removed regularly if feasible (2-4 times per day), and contained for disposal.
39. If a release into the Santa Maria River or ocean occurs, Unocal shall with oversight by the independent Onsite Environmental Coordinator collect samples as soon as practicable such that quantification of the spill volume can be estimated and potential impacts to biota and water quality can be evaluated. Unocal shall provide split samples to the CDFG/OSPR and the RWQCB as requested.
40. Prior to issuance of any grading permit for excavation, or Notice To Proceed for any control and/or treatment system Unocal shall submit to the County Department of Planning and Building and the RWQCB for review and approval a comprehensive **Inspection and Maintenance (I and M) Program** for all control and treatment systems. Monitoring systems shall be installed on any critical process that, in the event of a failure, would result in the loss of hydraulic control of the separate-phase plumes or a shut down of a biosparge system. As with the existing extraction wells at the 5X site, these monitoring systems shall be checked daily.
41. At all locations where partial separate-phase plumes will be left in place (L11 and M4 plumes), Unocal shall install HDPE walls to prevent down-gradient migration of separate-phase diluent. If monitoring shows migration of product, Unocal shall install ground water extraction wells up-gradient of the HDPE walls in order to establish hydraulic control of the ground water and separate phase diluent within the vicinity of the HDPE walls.

42. Unocal shall monitor behind each sheet pile wall ground water elevations to track the depth to ground water, particularly in areas containing separate-phase diluent. These ground water elevations shall be reported to the RWQCB. Rising ground water elevations behind the sheetpile walls shall be mitigated by pumping water from the areas where mounding occurs. Since the ground water is contaminated, Unocal shall prior to discharge of the ground water submit to the RWQCB for review and approval a Pumping and Treatment Plan.
43. Ground water flow modeling shall be used in the design phase of each HDPE wall system to determine the influence of the barriers on ground water flow. The model shall be constructed and calibrated for natural flow conditions. If the model results indicate that dissolved-phase concentrations will migrate to new areas, Unocal shall make design changes to offset this impact or shall propose additional monitoring to the RWQCB for review and approval. Modeling and results shall be submitted to the RWQCB for review and approval and a copy to the County Department of Planning and Building prior to installation of HDPE walls.
44. The piezometric surfaces of the zones of interest shall be monitored to assess the magnitude of the drawdown and changes in vertical gradients. At a minimum, monitoring of TPH and water levels shall be conducted for both the dune sand aquifer and the regional aquifer. Special precautions shall be taken to prevent the drawdown of separate-phase diluent into the underlying finer-grained materials of the aquitard. Depth to product and thickness of product measurements shall be taken at every extraction well periodically when the cone of depression is being established to prevent contamination of the aquitard. The potential for dissolved-phase migration between the zones shall be evaluated using ground water velocities, not strictly ground water gradients.
45. Prior to installing biosparging wells, Unocal shall submit to the RWQCB for review and approval information on the chemical nature of the drilling fluids including but not necessarily limited to (a) the biological degradation of the drilling fluids to ensure that hazardous by-products will not be formed in the process, and (b) chemical analyses for volatile organic compounds, semi-volatile organic compounds, metals, pH, and aquatic toxicity.
46. If the RWQCB finds a drilling fluid unacceptable, alternative drilling fluids shall be evaluated by Unocal until a suitable material is found and approved by the RWQCB. If a suitable drilling fluid cannot be found other drilling methods and well constructions shall be considered.
47. The landfarm operation shall be designed and constructed to collect and store excess water from wetting operations prior to treatment and disposal.

48. The landfarm operation shall be isolated from the ground surface by a barrier to prevent migration of treatment water into the dune sand aquifer and adjacent water resources unless otherwise determined by the RWQCB.
49. Prior to installing the biosparging wells, Unocal shall survey the inorganic iron content in soil and ground water to identify areas where high concentrations of inorganic iron may cause fouling of the air delivery system. The survey shall be conducted in all areas selected for biosparging and submitted to the RWQCB for review and comment.
50. Unocal shall use materials for subsurface piping (air delivery system) that would be less prone to fouling and scaling by subsurface chemicals and biological activity.
51. Unocal shall take all feasible steps to reduce and mitigate the impacts of fouling and scaling in air sparging systems and to dissolve any iron precipitation.
52. Prior to issuance of building permits for the biosparging system Unocal shall submit a Biosparging Monitoring and Contingency Plan to the County Department of Planning and Building and the RWQCB for review and approval that includes provisions to monitor for fouling and scaling of the biosparging system as well as methods for mitigating fouling and scaling once detected. Use of antibiofouling chemicals shall first be approved by the RWQCB.
53. Drilling logs, CPT logs and other geologic information shall be reviewed and approved by the RWQCB before constructing biosparge systems to identify potential areas of channeling.
54. **Prior to installation of biosparge subsurface piping at the M4 and L11 plumes,** Unocal shall perform a survey of dissolved oxygen levels in ground water as a baseline. Unocal shall perform the surveys after installation of the piping but before start-up. The surveys shall be performed over the areas where biosparging will occur and in selected areas to serve as background locations. The surveys will be repeated immediately following installation and again after three months of operation. The surveys shall also include monitoring of water levels to detect evidence of mounding. Results of all surveys shall be submitted to the RWQCB for review and comment.
55. In areas where channeling is preventing effective distribution of injected air, additional air sparging wells shall be used to increase dissolved oxygen levels in the oxygen-deficient areas.
56. Unocal shall monitor continuously the air injection rate and volume at each injection blower so that a release can be detected.

57. Prior to operation of air sparging wells, Unocal shall submit to the RWQCB for review and approval an Injection System Maintenance Plan.
58. The concentrations of biostimulatory substances (i.e., ammonia, nitrate, orthophosphate) shall be assessed in soil and ground water for all areas planned for nutrient injection. Nutrients shall only be injected where nutrient levels are below optimal conditions. Nutrients shall be injected into ground water at a concentration and rate approved by the RWQCB. Biological degradation rates and nutrient consumption rates shall be considered. Oxygen-Releasing Compounds shall not be used without approval from RWQCB, USFWS and CDFG/OSPR.
59. Unocal shall monitor the consumption rate of the nutrients and use the data to determine if and when additional nutrients should be injected into the subsurface.
60. Unocal shall establish a series of ground water monitoring wells or microwells to monitor nutrient concentrations in ground water near surface water bodies as required by the RWQCB. The monitoring wells will serve as an early warning system for biostimulatory substances migrating to surface water via ground water.
61. If ground water monitoring shows that biostimulatory substances are threatening surface water quality and beneficial uses may be adversely impacted, the biostimulatory substances will have to be removed from ground water before continued migration of the substances results in aquatic growths in surface water.

### **ONSHORE BIOLOGICAL RESOURCES**

The U.S. Fish & Wildlife Service (USFWS) will issue a Biological Opinion pursuant to Section 7 of the Endangered Species Act of 1973, as amended (ESA), for Stage 1 of the proposed remediation project. Additionally, Unocal has applied for an incidental take permit under Section 10 of the ESA for all activities not covered in the Biological Opinion. In order to obtain an incidental take permit, Unocal must develop a Habitat Conservation Plan (HCP). The California Department of Fish and Game will issue a permit under Section 2081 of the California Fish and Game Code. It is the intent of these conditions to not be in conflict with the approved permits issued by these two agencies. However, in instances where these conditions or the provisions of the permits are more stringent, the more stringent conditions shall apply. If these conditions are found to be in conflict with the approved Section 7 or 10 permits or the California Department of Fish and Game's (CDFG) 2081 permit, then the approved Section 7 or Section 10 permits or the 2081 permit shall prevail over these conditions of approval.

### **FIELD-WIDE BIOLOGICAL CONDITIONS**

62. Prior to September 1, 1999, a **Comprehensive Management and Coordination Plan** shall be developed by Unocal and submitted for review and approval by the County

Department of Planning and Building, the Executive Director of the Coastal Commission and appropriate resource agencies. The purpose of this Plan is to coordinate site characterization, oil spill remediation, oil field abandonment, and infrastructure removal activities with ecological restoration efforts so as to avoid conflict and redundancy, and increase efficiency. It is also intended to coordinate site-specific activities with field-wide restoration efforts (e.g., managing sensitive species, restoring the same species at various sites, and establishing a weed-control program). In order to accomplish these goals, the Comprehensive Management and Coordination Plan shall be coordinated with the Surface Restoration and Revegetation Plan (Exhibit G, Condition 6), the Soil Stabilization and Erosion Control Plan (Exhibit F, Condition 63), and the site-specific requirements of the Habitat Restoration, Revegetation, and Monitoring Plan (Exhibit F, Condition 64). The Management and Coordination Plan must include, but not necessarily be limited to, the following requirements:

- a. Create a Unocal Management and Coordination Team and describe its organizational structure, including personnel, methods of contact, and responsibilities for coordinating site characterization, oil spill remediation, oil field abandonment, and infrastructure removal with surface restoration, soil stabilization and ecological restoration activities, including, but not necessarily limited to, habitat enhancement, restoration, and creation, revegetation, sensitive species management, and exotic species control.
- b. Incorporating the requirements of Condition F68, create a protocol for surveying, delineating, and marking construction sites and access corridors with special provisions for areas where construction activities have the potential for impacting wetlands or sensitive species. In order to minimize delays in construction, these protective activities will be conducted by qualified biologists selected by Unocal and approved by the County Department of Planning and Building, the Executive Director of the Coastal Commission, and appropriate resource agencies. However, in order to insure adequate oversight, Unocal will notify the Onsite Environmental Coordinator in a timely fashion prior to conducting surveying, delineating or marking activities. At the discretion of the Onsite Environmental Coordinator, an independent biological monitor under the Onsite Environmental Coordinator's direction may participate in these activities. The Onsite Environmental Coordinator, in cooperation with Unocal, may alter access corridors as appropriate to insure resource protection.
- c. Create oilfield management zones that make sense ecologically and logistically. Use oil field features (roads, pads, facilities sites) as boundaries and landmarks.
- d. Where there must be excavation at nearby sites in the same habitat type, coordinate activities so that plants and topsoil from one site can be moved directly to the other site and used in restoration. Identify specific instances where this appears ecologically desirable and logistically feasible.

- e. For contiguous treatment areas, including but not limited to L11-M11 and M3-M4, integrated treatment and habitat restoration plans shall be prepared, addressing such combined sites as a single unit in terms of lessening impacts and providing for future habitat restoration.
- f. Where site characterization, oil spill remediation, oil field abandonment, or infrastructure removal activities affect the same plot of ground, including access corridors, site characterization, abandonment and infrastructure removal shall be conducted prior to or during the remediation and prior to habitat restoration and revegetation efforts that could reasonably be expected to be disturbed by subsequent activities. If this is not feasible, an alternative plan must be approved by the County Department of Planning and Building and the Executive Director of the Coastal Commission. For sites that do not require excavation, after equipment installation restore and revegetate those portions of the site that will not be subsequently disturbed by equipment removal. The intent is to minimize temporal loss of habitat and reduce the potential for weed invasion.
- g. Remove equipment and foreign materials, such as asphalt, concrete, gravel, diatomaceous shale, and imported soil. Crude oil used to stabilize slopes may be left in place where a thriving, predominately native plant community has established through the dried oil. In sites severely infested with invasive exotic species, the dried oil shall be removed as part of abandonment activities, except for good cause (e.g., steep slopes or other areas particularly susceptible to soil erosion) and with the approval of the County Department of Planning and Building and the Executive Director of the Coastal Commission. The determination of which sites need to be remediated shall be determined by a qualified biologist under the direction of the Onsite Environmental Coordinator and in cooperation with Unocal. Following oil spill remediation, erosion control measures shall be immediately implemented and the site shall be included in the Habitat Restoration, Revegetation, and Monitoring Plan described in Condition 64 in Exhibit F.
- h. As soon as practicable, restore all remediated or abandoned sites not needed for use during the continuing remediation effort.
- i. Using existing data where possible, categorize and map the habitats throughout the oilfield in terms of type, condition, size, and quality (good, fair, degraded; supports sensitive resources; etc.). Specifically, identify and map the following areas: (1) relatively undisturbed areas of the various habitat types which could be used as a reference sites to evaluate the effectiveness of restoration efforts; (2) sources of suitable materials for plant propagation; (3) areas suitable for the restoration and expansion of sensitive species populations; and, (4) locations and approximate density and ground surface cover of invasive exotics, including veldt grass (*Ehrharta calycina*), pampas grass (*Cortaderia jubata*, *Cortaderia sp.*), Senecio sp, iceplant (*Carpobrotus edulis* and *C. chilensis*), narrow-leafed iceplant

(*Conicosia pugioniformis*), giant reed (*Arundo donax*), and beachgrass (*Ammophila arenaria*). Unocal shall report the results of these field efforts in a Habitat Inventory that will be completed and submitted to United States Fish and Wildlife Service, California Department of Fish and Game, County Department of Planning and Building, and the Executive Director of the Coastal Commission for review and comment by July 1, 2000. A 30-day comment period will be allowed. A Final Report which includes agency comments in appendices will be submitted to United States Fish and Wildlife Service, California Department of Fish and Game, County Department of Planning and Building, and the Executive Director of the Coastal Commission by September 1, 2000. Data upon which the inventory is based shall have been collected within the previous 10 years. Data collected prior to June 1, 1998, will be ground-truthed in the field by qualified biologists in cooperation with the independent Onsite Environmental Coordinator to verify conditions and document changes. Areas that have been substantially altered as determined by the independent Onsite Environmental Coordinator in cooperation with Unocal will be re-surveyed.

- j. Document annually the location of the aquatic habitats associated with the Santa Maria River mouth and estuary and compare these locations with locations of past and ongoing remediation activities and activities planned for the coming year. Identify any potential impediments to migration (e.g., water diversions needed) and potential for degradation of water quality and estuarine habitat, and identify additional mitigation measures necessary to maintain free movement and habitat quality for fish and wildlife species. Phase the remediation, abandonment, and infrastructure removal activities so as to avoid impacting large portions of the populations of one species or one habitat type at about the same time, and to ensure the continued existence of healthy sources of propagules in the vicinity of sites to be restored.
- k. Establish an oilfield-wide exotic species management and eradication program. Using the Habitat Inventory described above, assign priority categories to each weed species and geographic area and establish a matrix of weed control methods and priorities by species and location. Isolated areas or small colonies of beach grass shall be included in the high priority group of species to be treated because of the direct relationship between colony size and difficulty in eradication. Initial efforts shall target isolated occurrences (e.g., pampas grass) and beginning populations (e.g., *Senecio* sp., veldt grass), and conicosia wherever encountered. This shall be followed by treatment of denser, more established populations of weeds such as veldtgrass and iceplant. Exotic species control activities shall be continued field-wide throughout the period of site characterization, remediation, abandonment, and infrastructure removal and performance monitoring.
- l. Separate from the field-wide exotic control program, establish a site-specific schedule for weed control. Exotic species control activities shall be conducted on sites prior to oil spill remediation, oil field abandonment, infrastructure removal

- or stockpiling of soil. Where practicable, sites shall be initially treated at least one growing season in advance of these activities with follow up as necessary. The intent is to extirpate living weeds and minimize the weed seed bank.
- m. Develop and implement a field-wide management plan for each sensitive species which is potentially impacted by site characterization, oil spill remediation, oil field abandonment, infrastructure removal or other project-related activities. The program plan shall be developed in consultation with, and be approved by, the appropriate resource agencies, the County Department of Planning and Building, and the Executive Director of the Coastal Commission. Sensitive species are defined as (a) species which are listed by state or federal agencies as threatened or endangered or which are designated as candidates for such listing, (b) California species of special concern, (c) fully protected or "special animal" species in California, (d) plants considered rare, endangered, or of limited distribution by the California Native Plant Society, and (e) other species which were not recorded on the oilfield prior to January 1, 1999, and for which there is substantial scientific evidence of rarity or endangerment. Potentially impacted sensitive species within the Guadalupe Oil Field include, but are not necessarily limited to, La Graciosa thistle (*Cirsium loncholepis*), surf thistle (*Cirsium rhizophilum*), beach spectacle-pod (*Dithyrea maritima*), dune mint (*Monardella crispera*), dandelion (*Malacothrix incana*), California least tern (*Sterna antillarum*), western snowy plover (*Charadrius alexandrinus*), California red-legged frog (*Rana aurora draytonii*), tidewater goby (*Eucyclogobius newberryi*), and silvery legless lizard (*Anniella pulchra pulchra*).
  - n. Provide a schedule of planned activities.
  - o. Provide quarterly progress reports to the County Department of Planning and Building and the Executive Director of the Coastal Commission and appropriate resource agencies.
63. Prior to September 1, 1999, a **Soil Stabilization and Erosion Control Plan** shall be developed by Unocal and submitted for review and approval by the County Department of Planning and Building and the Executive Director of the Coastal Commission. The purpose of this plan is to create an oilfield-wide soil stabilization and erosion control program that will integrate efforts at particular sites in the context of larger scale natural processes. The Plan shall be compatible with the Habitat Restoration, Revegetation, and Monitoring Plan objectives. Any soil stabilizers identified for erosion control shall be compatible with native plant recruitment and establishment. The erosion control plan shall include temporary soil stabilization methods to prevent the loss or movement of soil from clean or contaminated soil stockpiles.
64. Prior to September 1, 1999, a **Habitat Restoration, Revegetation, and Monitoring Plan** shall be developed for all but Stage 1 activities by Unocal and submitted for review and approval by the County Department of Planning and Building, the Executive Director

of the Coastal Commission and appropriate resource agencies. Upon submittal and prior to approval, the Habitat, Revegetation, and Monitoring Plan shall be available for public review and comment for 30 calendar days. For Stage 1 activities, a site specific plan as described herein and which includes the protective provisions of Conditions F62, F66, F67, and F68 will be developed by Unocal and approved by the County Department of Planning and Building and the Executive Director of the California Coastal Commission prior to any ground disturbance.

For sites M4 and L11, all pre-construction surveys required herein will be completed and a report submitted and approved by the County Department of Planning and Building and the Executive Director of the California Coastal Commission prior to any ground disturbance. In addition, for sites M4 and L11, a site-specific oil spill remediation plan which includes the protective provisions of Conditions F62, F66, F67, and F68 will be developed and approved by the County Department of Planning and Building and the Executive Director of the California Coastal Commission prior to any ground disturbance. For sites M4 and L11, a site-specific Habitat Restoration, Revegetation, and Monitoring Plan as described herein shall be developed by Unocal and submitted for review and approval by the County Department of Planning and Building, the Executive Director of the Coastal Commission and appropriate resource agencies prior to April 1, 1999. Upon submittal and prior to approval, the Habitat, Revegetation, and Monitoring Plan shall be available for public review and comment for 30 calendar days.

In compliance with other conditions in Exhibits E, F, and G, additional sites may be added to the Habitat Restoration, Revegetation, and Monitoring Plan after initial approval. Within 90 days after the criteria for inclusion are met, Unocal will develop a site-specific habitat restoration, revegetation, and monitoring plan and submit it to the County Department of Planning and Building and the Executive Director of the Coastal Commission for approval. The overall goal of the activities described in this Plan is to establish healthy, self-sustaining, communities similar in species composition, abundance, and dispersion to undisturbed local natural communities of the same type. The purpose of this Plan is to provide site-specific instructions for achieving this goal at sites impacted by site characterization, oil spill remediation, oil field abandonment, and infrastructure removal activities. Although each site will have unique requirements that must be addressed in this Plan, it is recognized that habitat restoration is not an isolated endeavor, but rather takes place within a larger context. For that reason, the site-specific activities in this plan shall be coordinated through the Comprehensive Management and Coordination Plan (Exhibit F, Condition 62). The Habitat Restoration, Revegetation, and Monitoring Plan shall apply to sites affected by site characterization, oil spill remediation, oil field abandonment and infrastructure removal activities and shall include, but not necessarily be limited to, the following requirements:

- a. Each site shall have a specific restoration, revegetation, and monitoring plan. Plan elements that are general or apply to multiple sites may be contained in an

appendix and included by reference. Each site-specific plan shall include, but not necessarily be limited to, the following elements:

- i Prior to any remediation, abandonment, or infrastructure removal activities, a pre-disturbance biological survey shall be completed. The survey shall identify all species occupying or using the site, estimate the abundance (density or percentage ground cover), size or age structure, and condition of resident species, and the intensity of use (e.g., time spent foraging or loafing) of non-resident species. Wildlife surveys must be conducted within 24 months of the disturbance and must include the seasons during which disturbances will occur. Vegetative surveys must be conducted within 6 months of the disturbance. Surveys of sensitive species must be conducted within 30 days of the disturbance. Ground level photographs shall be taken within 30 days of the disturbance and a high resolution, vertical ortho rectified aerial photograph at a scale of 1:6000 or less will be taken within 3 months before the disturbance.
- ii Where delineated wetlands are present, prior to any remediation, abandonment, or infrastructure removal activities, the local hydrology and the soil profile to the depth of the expected excavation will be analyzed and described by appropriate specialists approved by the County Department of Planning and Building and the Executive Director of the Coastal Commission. The parameters to be assessed shall include depth, composition, and texture of wetland soils, and a description of any relatively impervious confining layers. Representative soil borings will be preserved and retained by Unocal until habitat restoration and revegetation has been successfully completed, unless otherwise approved by the County Department of Planning and Building and the Executive Director of the Coastal Commission. The purpose of this condition is to provide the information necessary for physical restoration appropriate to the re-creation of self-sustaining wetland habitat similar to that which existed prior to excavation.
- iii A map shall be prepared with a polygon representing the geographic limits of disturbance and the geographic boundary of restoration and revegetation activities. The disturbance boundary will be physically delineated in the field. The boundary of restoration activities may be larger.
- iv Prior remediation, abandonment, infrastructure removal activities and other known disturbances (including grazing) shall be summarized.
- v Prior to issuance of a grading permit for any excavation project, a construction monitoring plan shall be designed by Unocal and approved by the County Planning and Building Department and the Executive

Director of the Coastal Commission. This plan shall include, but not necessarily be limited to, the following elements:

- (a) Pre-construction topographic survey information.
  - (b) Specifications for soil compaction, for grading and contouring, for quantity and physical/chemical characteristics of replacement soils and fill, for top soil maintenance or replacement, for erosion control procedures, and other development activities. Upon completion of an excavation, ground surface shall be restored to its pre-construction topographic profile and any temporary sheetpile shall be removed. The area surveyed must include the entire limits of work including access corridors, staging areas, overburden storage areas and topsoil storage areas.
  - (c) Protocols to determine quantitatively, following physical restoration and grading, whether the physical habitat has been built-to-plan. The post-construction monitoring report must be approved by the County Department of Planning and Building and the Executive Director of the Coastal Commission, prior to revegetation efforts within the area physically restored. This does not preclude early restoration and revegetation activities in portions of the site not subject to construction activities.
- vi. A Dune Stabilization Plan which must include, but not necessarily be limited to, (a) monthly monitoring for erosion during the annual rainy season (including the period November through March), until biological performance criteria have been met, (b) remedial measures in the event of erosion, and (c) ongoing dune stabilization measures which may include appropriate physical measures (e.g., installation of jute netting) and revegetation activities.
- vii. The habitat restoration and revegetation plan shall include a description of the habitat and revegetation goals in terms of abundance (e.g., density or ground cover), height or other growth characteristics, recruitment and survival, and general dispersion of particular plant species and the population characteristics (density, age or size structure, etc.) and habitat use by wildlife species. The habitat restoration and revegetation plan will include technical details of collecting seeds and other propagules, propagation, planting, routine monitoring and maintenance (including irrigation), wildlife introductions, and a time schedule. Facilities and staff will be identified.
- viii. The restoration and revegetation monitoring plan shall include specific erosion control and ecological performance criteria which relate logically to the local restoration and revegetation goals. Where there is sufficient information to provide a strong scientific rationale, the performance

criteria shall be absolute (e.g., a specified percentage ground cover or a specified average height within a specified time for a species). Where absolute performance criteria cannot reasonably be formulated, clear relative performance criteria will be specified. Relative criteria are those that require a comparison of the restoration site with reference sites. Reference sites may be located on the oilfield property or in other areas of the Guadalupe–Nipomo Dunes complex. In the case of relative performance criteria, the rationale for the selection of reference sites, the comparison procedure, and the basis for judging differences to be significant will be specified. If the comparison requires a statistical test, the test will be described, including the desired magnitude of difference to be detected, the desired statistical power of the test, and the alpha level at which the test will be conducted. The design of the sampling program shall relate logically to the performance criteria and chosen methods of comparison. The sampling program shall be described in sufficient detail to enable an independent scientist to duplicate it. Frequency of monitoring and sampling shall be specified for each parameter to be monitored. Sample sizes shall be specified and their rationale explained. Using the desired statistical power and an estimate of the appropriate sampling variability, the necessary sample size will be estimated for various alpha levels, including 0.05 and 0.10.

- ix. Unocal shall fund an independent biological performance monitor to be selected by the County Department of Planning and Building and the Executive Director of the Coastal Commission, after consultation with Unocal and other agencies, to conduct performance monitoring. The performance monitors will coordinate their activities with the Management and Coordination Team and with the revegetation contractors. The performance monitors and revegetation contractors are encouraged to cooperate in field sampling, but the performance monitors shall direct the performance monitoring activities. Performance monitoring shall commence one year following the completion of habitat restoration and revegetation and continue until performance standards have been met for two consecutive years after the end of maintenance or bioremediation activities (watering, replanting etc.) or for 10 years, whichever is shorter. If performance standards are not met in ten years, or if prior to that time Unocal concludes that restoration and revegetation will not meet performance standards, within 180 days Unocal shall apply to the County Department of Planning and Building for an amendment to the Coastal Development Permit which will include alternative mitigation.
- b. Within 30 days before excavation, construction, installation of equipment, pipeline removal or any other activity associated with site characterization, oil spill remediation, oil field abandonment or infrastructure removal, qualified

biologists in cooperation with the Onsite Environmental Coordinator, shall survey all proposed construction, staging, and access areas for presence of sensitive species that might reasonably be expected to occur based on known habitat requirements or previous sightings. Sensitive species are defined as (a) species which are listed by state or federal agencies as threatened or endangered or which are designated as candidates for such listing, (b) California species of special concern, (c) fully protected or "special animal" species in California, (d) plants considered rare, endangered, or of limited distribution by the California Native Plant Society, and (e) other species which were not recorded on the oilfield prior to January 1, 1999 and for which there is substantial scientific evidence of rarity or endangerment. Individuals and colonies shall be mapped and clearly marked, their condition shall be determined and numbers of individuals or percentage of ground coverage or other appropriate measure of abundance shall be determined and recorded. If sensitive species are present, Unocal will implement the following requirements:

- i Adjust or limit construction areas and access routes and construction timing to avoid impact to individuals or colonies of sensitive species.
- ii Where impacts to sensitive plant species are unavoidable, develop and implement a salvage, propagation, and replanting program that will utilize both seed and salvaged (excavated) plants which constitute an ample and representative sample of each colony of the species that would be impacted. The program plan shall include measures to perpetuate to the greatest extent possible the genetic lines represented on the impacted sites by obtaining an adequate sample prior to construction, propagating them and using them in the restoration of that site. The salvage, propagation, and replanting program shall be approved by the appropriate resource agencies, the County Department of Planning and Building, and the Executive Director of the Coastal Commission before any activities that could potentially impact sensitive plant species or a separate mitigation plan that compensates for direct impacts (including mortality, decreased fitness (e.g., growth or breeding success) and loss of habitat) and temporal losses shall be developed in consultation with, and be approved by, appropriate resource agencies, the County Department of Planning and Building, and the Executive Director of the Coastal Commission within one year following habitat restoration at the site.
- iii Where impacts to sensitive animal species or their habitats are unavoidable, develop and implement a capture and relocation program. Prior to construction, the site and the surrounding area for a minimum distance of 200 feet beyond the disturbance polygon will be searched and individuals captured using techniques appropriate to the species of concern (e.g., visual examination, baiting, night lighting, netting, trapping, etc.) and approved by the appropriate resource agencies. Appropriate barriers to

movement will be erected to minimize movement back into the construction area and the area will be periodically searched and immigrants removed. All captured individuals will be released as soon as possible into suitable habitat that has previously been identified or will be maintained in captivity and released where captured after restoration and revegetation is completed. The size or age-class, location of capture, and the relocation site shall be recorded for each individual relocated from the site. The program plan shall be developed in consultation with, and be approved by, appropriate resource agencies, the County Department of Planning and Building, and the Executive Director of the Coastal Commission. A separate mitigation plan that compensates for direct impacts (including mortality, decreased fitness (e.g., growth or breeding success) and loss of habitat) and temporal losses shall be developed in consultation with, and be approved by, appropriate resource agencies, the County Department of Planning and Building, and the Executive Director of the Coastal Commission within one year following habitat restoration at the site. The mitigation plan shall include provisions for (a) yearly surveys for sensitive species during the suitable season to determine relative population sizes, evidence of breeding, and distribution throughout the oil field; (b) reassessment of the suitability and effectiveness of proposed mitigation; and, (c) if needed, implementation of additional mitigation.

- c. For areas where vegetation and soil are to be removed, salvage and replace topsoil that is reasonably weed-free. In consultation with the resource agencies and revegetation specialists, develop a plan for removing the topsoil that will maximize, to the extent feasible, salvage of the seed bank. This plan must be approved by the County Department of Planning and Building and the Executive Director of the Coastal Commission.
- d. Include soil stabilization and erosion control measures that are compatible with the revegetation objectives. Any soil stabilizers identified for erosion control must be compatible with native plant recruitment and establishment. Erosion control shall include temporary soil stabilization techniques to prevent the loss or movement of soil from clean or contaminated soil stockpiles.
- e. Replant with native species propagated from seed or cuttings collected locally and, where feasible, from within the oil field. Include any sensitive species that would be impacted during construction activities.
- f. A post-construction high resolution, vertical ortho rectified aerial photograph at a scale of 1:6000 or less will be taken of each site 3 years following the completion of revegetation. A report including the pre-construction and post-construction aerial photographs and a map with overlays containing vegetation polygons from the two aerial photographs shall be submitted to the County Department of

Planning and Building and the Executive Director of the Coastal Commission within 90 days of the date the post-construction photograph is taken.

65. Prior to September 1, 1999, a **Habitat Restoration and Revegetation Research Program** shall be developed by Unocal in consultation with the U.S. Fish and Wildlife Service, California Department of Fish and Game, and technical specialists, and submitted for review and approval by the County Department of Planning and Building and the Executive Director of the Coastal Commission. The purpose of this program is to develop specific practical techniques to foster the recovery of particular sensitive species impacted by site characterization, oil spill remediation, oil field abandonment, and infrastructure removal activities. The program shall include, but not necessarily be limited to the following elements:
- a. A separate plan for each sensitive species for which unavoidable significant impacts have occurred, or are likely to occur, and for which there are no established, field-proven methods of successful restoration. Possible examples are beach spectacle-pod, La Graciosa thistle, Surf thistle, and red-legged frogs.
  - b. Unocal will enter into a Memorandum of Understanding, as required by the U.S. Fish and Wildlife Service and California Department of Fish and Game, prior to implementing research involving listed species.
  - c. Development and testing of effective methods to propagate individuals and to establish and expand field populations of impacted sensitive species
  - d. Provisions to maintain genetic diversity within restored populations, as determined through consultation with the resource agencies and other specialists.
  - e. Each plan shall include formal experimental designs including the initial treatments to be tested, physical layouts, laboratory and field methods, and statistical tests, and shall cover a period of 18 months. Appropriate technical literature should be cited. It is understood that such a program is continually evolving based on the results of each set of experiments.
  - f. For each included species, a scientific advisory panel shall be established to review the plan and provide guidance in its implementation. Members will be nominated by Unocal and be approved by the County Department of Planning and Building, the Executive Director of the Coastal Commission, and appropriate resource agencies. The panels shall include individuals with expertise in soils and micorrhizae, botany and revegetation, wildlife biology, and experimental design and statistics. There shall be at least two members of each panel. A specialist may serve on more than one panel.
  - g. Unocal shall prepare a brief six-month progress report six months after the implementation of each applied research plan and annually thereafter. The progress report will give a narrative description of past activities and results and describe planned new activities, including a formal description of new

experiments in appendices. The progress report shall be completed within 30 days after the end of the subject six-month period and submitted to each member of the scientific advisory panel and the resources agencies for review and written comments, and to the County Department of Planning and Building and the Executive Director of the Coastal Commission. Every effort shall be made to obtain the written comments of the scientific advisory panel within 30 days. These comments will be forwarded to the County Department of Planning and Building and the Executive Director of the Coastal Commission upon receipt with a cover letter responding to the comments of the scientific advisory panel.

- h. Unocal shall prepare a formal annual report 12 months after the implementation of each applied research plan and annually thereafter. The annual report will be in two parts. The first section will report past results in standard form including Introduction, detailed Methods, Results and statistic analyses, Conclusions, and Literature Cited. The second section will be a proposed research program for the 12 months following the completion of the current research plan with a formal experimental design including the treatments to be tested, physical layouts, laboratory and field methods, and statistical tests. The annual report shall be completed within 60 days after the end of the subject 12-month period and submitted to each member of the scientific advisory panel for review and written comments, and to the County Department of Planning and Building, the Executive Director of the Coastal Commission and appropriate resource agencies for review and approval. Every effort shall be made to obtain the written comments of the scientific advisory panel within 30 days. These comments will be forwarded to the County Department of Planning and Building, the Executive Director of the Coastal Commission, and appropriate resource agencies upon receipt with a cover letter responding to the comments of the scientific advisory panel.

- 66. Every reasonable effort shall be made to avoid impacts to wetlands. Wherever ground-disturbing activities will occur, a preliminary wetland assessment shall be made by a qualified wetland delineator in cooperation with the independent Onsite Environmental Coordinator. If, in the opinion of the independent Onsite Environmental Coordinator, there is evidence of frequent soil inundation or saturation, hydric soils, or a prevalence of hydrophytic vegetation, a formal wetland delineation shall be conducted by a qualified delineator approved by the County Department of Planning and Building and the Executive Director of the Coastal Commission. The delineation will be conducted in cooperation with the Onsite Environmental Coordinator and will utilize the criteria accepted by the California Department of Fish and Game and the California Coastal Commission. If wetlands are present in areas of potential impact, their boundaries shall be accurately determined and mapped. A report will be submitted to the County Department of Planning and Building and the Executive Director of the Coastal

Commission and other appropriate agencies prior to the initiation of site characterization, oil spill remediation, oil field abandonment, or infrastructure removal activities.

67. Prior to the initiation of oil spill remediation, oil field abandonment, or infrastructure removal activities which could result in unavoidable impacts to wetlands, except such activities at sites M4 and L11, the County Planning Commission must approve a Wetland Restoration and Mitigation Plan developed by Unocal in consultation with the Army Corps of Engineers, the U.S. Fish and Wildlife Service, the California Department of Fish and Game, the County Department of Planning and Building and the Executive Director of the Coastal Commission. Prior to April 1, 1999, Wetland Restoration and Mitigation Plans for sites M4 and L11 shall be developed by Unocal in consultation with the Army Corps of Engineers, the U.S. Fish and Wildlife Service, the California Department of Fish and Game, the County Department of Planning and Building, and the Executive Director of the Coastal Commission and submitted for approval to the County Planning Commission. The Wetland Restoration and Mitigation Plan shall include, but not necessarily be limited to, the following elements:
- a. The ratio of the area of created or restored wetlands to the area of impacted wetlands shall be 4 to 1, unless otherwise required by resource agencies.
  - b. To promote the reestablishment of desired wetland and transition habitats where these habitats have been excavated, post-treatment ground elevations shall be established so as to provide saturated surface soil conditions at the lowest points, surrounded by zones of gradual transition (averaging less than 5 percent slope) to provide a range of microhabitats that can accommodate the requirements of sensitive plant species. Final elevations shall be determined based on monitoring records for the site and the observation of groundwater depths during remediation.
  - c. A plan for monitoring dissolved-phase diluent to ensure detection of exposures approaching potential damage thresholds as determined by the U.S. Fish and Wildlife Service and the California Department of Fish and Game. Monitoring reports shall be submitted to the U.S. Fish and Wildlife Service the California Department of Fish and Game, the County Department of Planning and Building, and the Executive Director of the Coastal Commission quarterly or whenever it thresholds are exceeded.
  - d. The restored or created wetland and adjacent upland and transitional habitats within 100 feet, or a greater distance if required by appropriate resource agencies, shall be included in the Habitat Restoration, Revegetation, and Monitoring Plan described in Condition 64 in Exhibit F.
68. For all activities associated with site characterization oil spill remediation, oil field abandonment, and infrastructure removal, Unocal shall take all feasible steps to avoid or minimize environmental impacts including, but not necessarily limited to, the following actions:

- a. The duration of time each site is disturbed and the total area of disturbance shall be minimized to the extent feasible.
- b. Unocal shall maintain a current database of state or federally listed rare, threatened or endangered species and other sensitive species present in the oil field and seasonal or year round access restrictions or closures required for sensitive species protection. Unocal shall keep closure information posted in the field office and contractor trailers and notify all personnel of closed areas and penalties that Unocal will exact from its contractors and employees for non-compliance.
- c. In cooperation with the Onsite Environmental Coordinator in the field, Unocal shall clearly mark any potentially impacted locations of sensitive species in the oil field to exclude vehicles or pedestrians (e.g., with traffic cones, t-bar and caution/DO NOT ENTER tape, t-bar and orange construction fence).
- d. Unocal shall confine all off-road vehicular use to designated construction areas and access corridors. These shall be surveyed by qualified biologists in cooperation with the Onsite Environmental Coordinator and routed to avoid impacts to sensitive plant and wildlife species and minimize impacts on native vegetation and soils. The corridors shall be clearly designated in the field using durable and conspicuous markers that can be removed before they degrade or that will degrade completely into environmentally harmless materials. Locations shall also be marked on maps. All personnel operating vehicles capable of off-pavement travel shall be informed of the restrictions on off-pavement travel and made responsible for adhering to them.
- e. Unocal shall minimize ATV use and confine it to designated corridors with restrictions on top speed and noise generation. Access to monitoring wells shall be by the route employed to install them unless an ecologically preferable route is identified and approved by the independent Onsite Environmental Coordinator. Access routes to sites not accessible by designated corridors shall first be surveyed by a qualified biologist in cooperation with the Onsite Environmental Coordinator. An up-to-date sign-in log shall be maintained by Unocal (and its contractors) of all ATV use (including names of operators and passengers, routes traveled, dates and times in and out, and purpose). Access corridors shall be periodically surveyed, at a frequency determined by Unocal and the Onsite Environmental Coordinator in consultation with the appropriate resource agencies, by a qualified biologist in cooperation with the Onsite Environmental Coordinator to monitor their condition, including exotic species establishment, and presence of sensitive species (e.g., new establishment of beach spectacle pod). Eradication efforts shall be implemented if the corridor is facilitating spread of invasive exotic species into areas where they are not already well-established.
- f. Prior to the issuance of a construction permit for each Stage, an exclusion plan shall be prepared by Unocal in cooperation with the Onsite Environmental

Coordinator and approved by the County Department of Planning and Building and the Executive Director of the Coastal Commission. The plan shall identify and map all exclusion zones that shall not be disturbed or disrupted by any element of the proposed projects. Exclusion zones shall include sensitive habitats such as wetlands, riparian vegetation, important terrestrial habitat and other biological resources.

- g. Unocal shall restrict construction activities and equipment to existing roads, pads or otherwise disturbed areas as much as possible.
- h. Where access to sites or pipeline abandonment must be through native habitats, a qualified biologist in cooperation with the Onsite Environmental Coordinator shall determine the most suitable and least environmentally damaging access route to the site. This access route shall be clearly marked and will be considered part of the construction zone.
- i. Limits of the construction zone shall be clearly marked and delineated by Unocal in the field and approved by the Onsite Environmental Coordinator prior to issuance of grading permit for each excavation project. No unauthorized personnel or equipment shall be allowed in native habitats outside the construction limits.
- j. Unocal shall clearly mark biologically sensitive areas on grading plans and on site and ensure that they are avoided by personnel and equipment.
- k. At oil spill remediation sites, oil field abandonment activities shall be completed prior to or concurrent with remediation, avoiding any redisturbance following the completion of remediation. Following on-site remediation activities, foreign material (rock fragments, asphalt, abandoned equipment and debris) shall be removed from surface soils, except with the approval of the County Department of Planning and Building and the Executive Director of the Coastal Commission. Original topography shall be restored to the extent possible, and stabilized if necessary by physical means such as jute netting.
- l. For sites where ongoing access is required (such as for monitoring or maintenance), a qualified biologist in cooperation with the Onsite Environmental Coordinator shall determine the most suitable access route. Access routes shall be clearly marked and off-road travel shall be confined to designated routes. Periodic surveys of the access routes, at a frequency determined by Unocal and the Onsite Environmental Coordinator in consultation with the appropriate resource agencies, shall be conducted by a qualified biologist in cooperation with Onsite Environmental Coordinator to determine the presence of sensitive species and need for remedial action for environmental impacts, including weed establishment on the disturbed corridor. If the Onsite Environmental Coordinator determines that a more suitable route is present, then the new route shall be clearly marked and the old route shall be restored to preexisting conditions and clearly marked to preclude entry. Once the access routes are no longer required, they shall be

- included in the Habitat Restoration, Revegetation and Monitoring Plan described in Condition 65.
- m. Lighting shall be shielded and directed away from the beach or sensitive wildlife habitat, to the extent feasible, unless otherwise approved by the Onsite Environmental Coordinator.
  - n. Traffic shall be confined to existing roads and defined work areas. No equipment, vehicles, or personnel shall enter any designated exclusion area or area designated by the Onsite Environmental Coordinator as sensitive species habitat. Sensitive species habitat may be traversed only on foot with the permission of the Onsite Environmental Coordinator.
  - o. Prior to the startup of oil spill remediation activities, and as needed for new personnel, a qualified biologist approved by the County Department of Planning and Building, the Executive Director of the Coastal Commission and appropriate resource agencies shall conduct a brief training session for all personnel working on the oil field. Training shall include a brief description of all sensitive species potentially occurring on or near sites, details on each species habitat, the protective measures to be implemented for each species, a description of the role of the Onsite Environmental Coordinator and Biological Monitors, and the responsibilities of those on site to protect resources. A video may be produced to satisfy this requirement.
  - p. Unocal shall enable an Onsite Environmental Coordinator (OEC) to be present at the oil field at anytime, day or night, that ground-disturbing activities associated with site characterization, oil spill remediation, oil field abandonment, or infrastructure removal activities are taking place. Unocal shall notify the Onsite Environmental Coordinator of any such activities in a timely fashion. If sensitive species could potentially be affected, at the discretion of the OEC a Biological Monitor under the OEC's direction will be physically present at the site of site characterization, oil spill remediation, oil field abandonment, or infrastructure removal when these activities are occurring and shall monitor the construction zone and suitable sensitive species habitat within the project vicinity. The monitor shall be notified immediately if any sensitive species is observed inside the construction work area or within 200 feet of the zone. Only the Biological Monitor, or other qualified biologists approved by the resource agencies, shall handle or approach any sensitive species, except where lack of action would endanger the health of an individual animal. If construction operations threaten to injure individuals of a sensitive species, the Biological Monitor shall request the construction personnel to alter their activities so as to avoid such injury and shall immediately notify a designated Unocal representative and the Onsite Environmental Coordinator who will notify the County Department of Planning and Building and the Executive Director of the Coastal Commission as appropriate.

## **SANDY BEACH**

69. Site characterization, oil spill remediation, oil field abandonment or infrastructure removal activities on or near the beach and foredunes shall be scheduled to avoid Western snowy plover and California least tern habitat during their breeding seasons (from March 1 to September 15) to the maximum extent feasible as determined by the US Fish & Wildlife Service.
70. Under the direction of the Onsite Environmental Coordinator in cooperation with Unocal, an independent qualified biologist with western snowy plover and California least tern experience approved by the USFWS, CDFG, the County Department of Planning and Building, and the Executive Director of the Coastal Commission shall visit the site regularly as determined by the USFWS throughout the construction phase and immediately prior to site characterization, oil spill remediation, oil field abandonment or infrastructure removal activities to ensure that all practicable measures are being employed to avoid incidental disturbance of sensitive species and sensitive species habitats.
71. Western snowy plover and California least tern populations shall be monitored by a qualified biologist approved by USFWS, the County Department of Planning and Building and the Executive Director of the Coastal Commission to determine breeding and fledgling success during the remediation and abandonment activities and for a duration determined by the USFWS and CDFG after remediation activities have been completed.

## **FOREDUNES**

72. Unocal shall implement the provisions of Condition 64 with particular attention to Blochman's leafy daisy, dunedelion, beach spectacle-pod, surf thistle and other sensitive species.

## **BACKDUNE AREAS**

73. To the extent feasible, wildlife including California horned lizard, silvery legless lizard, and other sensitive species shall be removed from these areas and relocated to suitable habitat as directed by the appropriate resource agencies.

## **DUNE SWALES**

74. Pre-project surveys shall be conducted by a qualified biologist throughout the proposed area of disturbance and in suitable habitat within 500 feet to document the presence of any sensitive wildlife species including two-striped garter snakes, southwestern pond turtles or other species of concern. If required by appropriate resource agencies,

individuals of those species will be removed and relocated to suitable habitat outside the area of impact.

75. At sites where red-legged frog habitat is present, the following requirements will be implemented unless otherwise directed by the U.S. Fish and Wildlife Service.
- a. No site characterization, oil spill remediation, oil field abandonment or infrastructure removal activities shall occur within 200 feet of suitable California red-legged frog breeding habitat from January 1 to September 15 or as determined by USFWS.
  - b. Pre-project surveys of California red-legged frogs shall be conducted by an independent qualified biologist under the direction of the independent Onsite Environmental Coordinator and in cooperation with Unocal. The survey shall be conducted according to USFWS guidelines, throughout the proposed area of disturbance and within suitable habitat up to 500 feet away from the remediation area.
  - c. Unocal shall fence remediation sites within 500 feet of California red-legged frog habitat to exclude California red-legged frogs from the disturbance zone and the provisions of Condition 64 shall be implemented. Captured red-legged frogs shall be relocated to predetermined suitable habitat outside of the construction zone. All non-native predators to the red-legged frog, including crayfish and bullfrogs captured during the relocation efforts, shall be destroyed.
  - d. Nighttime surveys for California red-legged frogs shall be conducted at least twice per week or as directed by USFWS for the duration of construction activities in the vicinity of California red-legged frog habitat to ensure that red-legged frogs are not entering the work area.
76. If the river or lagoon is present in front of the 5X sheetpile wall at the time of its removal, Unocal shall take the following actions:
- a. Schedule sheetpile removal for the period November through January to avoid most nesting by tidewater gobies, unless otherwise allowed by the USF&WS.
  - b. Prior to removal of the 5X sheetpile wall, contour the land on the west side of the site to a stable slope that would minimize the probability of a cave-in into the lagoon or river after the sheetpile and HDPE walls are removed.

## **PUBLIC SAFETY**

77. All areas with hazards associated with mechanical equipment, physical barriers, excavation, and soil/water treatment shall be clearly marked, warning the public of the hazards, and informing the public of the activities that are taking place. Adequate fencing shall be constructed around these areas to prevent trespassing and vandalism throughout the remedial and restoration period. During active remediation activities that take place

near points of public access at the beach, Unocal shall station a worker at the beach to keep the public at a safe distance from active remediation hazards.

78. Physical barriers that extend above ground level, or that have the potential to extend above ground level due to erosional events, shall be removed within the four year duration of the cleanup project.
79. Unocal shall implement erosion control and sand augmentation programs where physical barriers extend above ground level, or have the potential to extend above ground level due to erosional events, until the barriers are removed pursuant to Condition 78.
80. Remedial projects that expose the public to safety hazards shall be scheduled for early completion in order to minimize the time that the public is exposed to the hazards.

### **VISUAL RESOURCES**

81. A licensed Landscape Architect or Architect experienced in choosing colors that blend with the outdoor contexts under conditions of variable lighting and viewing shall be consulted in the choice of colors to paint piping, pipe racks, and well monuments at the 5X, and B12/C12 Sites. The colors should be evaluated relative to each site and the relevant critical views. If the wood-planked equipment enclosure at the B12/C12 Site is noticeable by virtue of its color, it shall be painted to blend with the context as well. The colors for each site shall be approved by the County Department of Planning and Building.
82. Unocal shall to the maximum extent feasible schedule excavations that are located within the viewshed of Rancho Guadalupe County Park during periods of lowest visitation (December – March) to Rancho Guadalupe County Park.

### **AIR QUALITY**

The San Luis Obispo APCD is directly addressing project related air quality mitigation measures through its own permitting process. Final mitigation measures will be established through the SLOAPCD permit process.

83. A Dust Control Plan shall be submitted to the SLOAPCD for approval prior to the start of each stage of remediation. The plan shall include measures for watering of disturbed areas stabilization of stockpiles, limitations of vehicle speeds, limiting of activities on high-wind days, watering and cleaning of paved roads and entry/exit roads, tire cleaning on entry and exit, and inspection of heavy duty equipment to reduce particulate emissions.

84. An Emission Reduction Plan designed to reduce emissions from sources not covered by District permits shall be submitted to the San Luis Obispo Air Pollution Control District for approval prior to the initiation of remediation or abandonment activities. The plan shall specifically target onsite and offsite emissions from sources such as diesel powered mobile construction equipment, and heavy-duty on-road trucks. The Plan shall include at a minimum the following components:
- a. NOx reduction strategies for off-road construction equipment, including possible implementation of injection timing retard (2–4 degrees) in conjunction with the installation of high pressure injectors or use of ceramic coated combustion chamber components, or equivalent low emission engine technologies, on all applicable heavy-duty diesel powered construction equipment to the fullest extent feasible. Unocal shall use CARB-approved diesel fuel for all diesel powered equipment.
  - b. NOx and ROG reduction strategies for on-road heavy-duty trucks and other equipment. Potential strategies could include conversion of some equipment to use compressed natural gas (CNG) or other clean fuel; providing incentives to encourage subcontractors to use haul trucks that meet or exceed the 1994 or 1998 California on-road heavy-duty truck certification standard when bidding on contracts to haul contaminated material from Guadalupe; or other similar strategies. Use CARB-approved diesel fuel for all diesel powered equipment.
  - c. All construction equipment not modified to reduce NOx and ROG emissions shall be properly maintained to manufacturers specifications.
85. Exposed hydrocarbon areas associated with excavation shall be kept to a minimum and excavated material handled a little as possible in order to reduce the emissions of ROG due to off-gassing.
86. Unocal shall develop an Emission Reduction Program to be approved by SLOAPCD. Potential emission reduction projects should be located as close to the former Guadalupe Oil field site as possible including potential emission reduction projects in northern Santa Barbara County in the vicinity of Santa Maria and the City of Guadalupe.
87. Thermal treatment of the contaminated sand may be implemented to reduce the hydrocarbon emissions associated with contaminated material handling, stockpiling and landfarming. However, this mitigation measure would increase the NO<sub>x</sub>, SO<sub>2</sub>, and PM<sub>10</sub> emissions due to the operation of the thermal unit. Installation of a SO<sub>x</sub> scrubber would reduce SO<sub>x</sub> emissions by up to 98 percent and installation of NO<sub>x</sub> control such as SCR or other catalytic reduction systems, if feasible, should be considered. Unocal shall coordinate with SLOAPCD for the best approach. A program of monitoring shall be established to demonstrate that the TDU is operating effectively.

88. Unocal shall implement an employee trip reduction program designed to reduce emission from employee commute trips including, but not limited to, incentives to facilitate car pooling and a shuttle bus system.
89. Unocal shall use vapor recovery and carbon canisters or other applicable devices to reduce emissions associated with waste water, line draining, purging and abandonment. These may include covering of waste water collection systems and venting to a vapor recovery and control system. In addition, cover, as soon as possible and to the greatest extent possible, all exposed contaminated soils with appropriate covers.
90. **Prior to issuance of a construction permit for any Stage, Unocal shall prepare an Odor Control Plan to be approved by the SLOAPCD. The plan shall include at a minimum, the identification and characterization of potentially odorous compounds (especially the highly odorous sulfur based compounds that can be associated with petroleum products) likely to be emitted during remedial activities, mechanisms of odorous compound release, location and characteristics of potential receptors, the identification of control measures and procedures to be implemented to reduce or abate potential odor nuisance conditions, and procedures for odor complaint response and SLOAPCD notification. This condition shall be included in construction plans submitted to the County Department of Planning and Building and implemented by Unocal prior to the issuance of construction permits.**
91. Unocal shall prepare an Ambient Air Monitoring Plan to be implemented during remedial activities. The Plan shall identify, at a minimum, the target compounds to be monitored, sampling and analytical methods to be employed, location and frequency of sample collection, collection of supporting meteorological information, appropriate QA/QC measures, health effect criteria upon which to evaluate the significance of findings, and agency review of data. Due to the somewhat remote location of the site with respect to potential receptors, a tiered monitoring plan is suggested that provides greater monitoring and control should high levels of ambient air contaminants be found at "primary" sampling points situated near areas of active excavation, contaminated stockpiles, or land farm areas. **The Air Monitoring Plan shall be submitted to SLOAPCD and County Health Department for review and approval prior to issuance of construction permits.**

#### **TRANSPORTATION/CIRCULATION**

92. All project-related traffic shall be restricted from travel on Route 166 between the hours of 4:30 p.m. and 5:30 p.m. Possible alternative routes are presented in Table 5.9.2 of the Final EIR.
93. Unocal shall prepare a Traffic Control Plan to detail specific commuter and truck trip vehicle routes, peak hour and route restrictions; road surface maintenance; and traffic safety. The Traffic Control Plan shall be approved by the County Engineering

Department in consultation with the Santa Barbara County Public Works Department, Roads/Traffics Division.

94. Roads damaged by project-related truck traffic shall be properly restored to their pre-project condition. Prior to the remediation and abandonment activities, Unocal shall survey the proposed routes to assess the condition of the roads. Road damage monitoring shall be conducted throughout the project. Unocal shall pay for road restoration.

### **NOISE CONTROLS**

95. All construction activities involving motorized equipment shall be conducted between the hours of 7:00 A.M. and 9:00 P.M. to the extent practical.
96. Advance notice of project commencement shall be provided to the local community, including The Nature Conservancy as manager of the Guadalupe-Nipomo Dunes Preserve. Notification shall be by newspaper. The announcement shall state where and when construction will be scheduled. It shall also provide suggestions for residents to reduce noise intrusion (e.g., closing windows facing the oil field).
97. An 800 telephone number shall be established for receiving complaints and procedures shall be developed for responding. The number shall be included in the notification (N-2).
98. Mufflers on all internal combustion and vehicle engines shall be maintained to reduce noise to the maximum extent feasible.
99. Noise attenuation barriers shall be installed, as necessary.
100. All back-up beepers on equipment shall be turned down to the minimum allowed by OSHA.

### **LAND USE & RECREATION**

101. Unocal shall coordinate with the Nature Conservancy and the California Department of Parks and Recreation to provide notice to beach users at least one week before beginning project activities. Signs in English and Spanish shall be posted at the Rancho Guadalupe County Park and Oso Flaco Lake Natural Area parking lots. It should be made clear that the beach will remain open and that remedial activities do not pose a safety hazard to the public.

### **CULTURAL RESOURCES**

102. Remediation technology activities requiring ground disturbance within the SLO-851 buffer zone shall be preceded by controlled backhoe excavations under the direction of a

County-qualified archaeologist and local Native American representative. The excavations shall be sufficient to evaluate the potential horizontal and vertical presence of buried cultural resources within the impacted buffer area. A proposal for this backhoe assessment shall be reviewed by the County Department of Planning and Building prior to excavation commencement. In the event potentially significant archaeological materials are identified, a Phase 2 archaeological assessment of the find shall be funded by Unocal. If the materials are determined to be significant under CEQA Appendix K criteria, Unocal shall fund a Phase 3 data recovery mitigation program to collect a representative sample of the materials that would be lost. All investigations shall be performed by a County-qualified archaeologist and local Native American representative retained by Unocal.

103. Remediation technology activities requiring ground disturbance shall be monitored by a County-qualified archaeologist and local Native American representative. In the event potentially significant archaeological materials are identified, work shall be temporarily redirected and a Phase 2 archaeological assessment of the find shall be funded by Unocal. If the materials are determined to be significant under CEQA Appendix K criteria, Unocal shall fund a Phase 3 data recovery mitigation program to collect a representative sample of the materials that would be lost. All investigations shall be performed by a County-qualified archaeologist and local Native American representative retained by Unocal.

## **PUBLIC SERVICES**

104. **Prior to issuance of a construction permit for Stage 1 remediation activities**, Unocal shall submit to the County Department of Planning and Building for review and approval a detailed recycling plan for all materials leaving the site. The plan shall include (a) the destination of recycled materials, (b) the amount of materials to be recycled and (c) the amount of materials disposed of as solid waste.
105. Emergency response providers shall be notified of remediation and abandonment activities, locations, and dates prior to implementation.

## **FENCING**

106. **Prior to the issuance of a construction permit for Stage 2**, Unocal shall submit to the County Department of Planning and Building and the Executive Director of the Coastal Commission for review and approval a fencing plan that will effectively prohibit the passage of domestic livestock around and into wetland ponds A, B, and C and other wetlands identified in the jurisdictional wetland determination. The fencing shall be installed at the end of each Stage of remediation and abandonment activities in each wetland area.

## EASEMENTS

107. **Prior to the lapse of existing Offer to Dedicate Instrument No. 23795**, Unocal shall offer for dedication to a public agency or private conservation organization approved by the County Planning Director and the Executive Director of the Coastal Commission, a conservation easement covering an area extending from the southerly boundary to the northern boundary of the site, from mean high tide easterly to the east side of the B Road. In order to expedite acceptance of the Offer to Dedicate, Unocal shall also issue a fully executed Indemnification Agreement in form and content as set forth in Exhibit 3 to any entity approved in writing by the County Planning Director and the Executive Director of the Coastal Commission to accept the Offer to Dedicate. The Indemnification Agreement shall provide that it shall take effect upon the recordation by the approved entity of its acceptance of the OTD. The Offer-to-Dedicate shall be effective for at least 25 years after the issuance of a closure letter for the site by the RWQCB and shall be consistent with the requirements of CDP 409-24 issued by the California Coastal Commission on January 4, 1980. Unocal may seek an amendment to this permit requesting a modification of the requirements of this condition on the ground that circumstances beyond Unocal's control, such as a refusal to the current owners of the Guadalupe Dunes to transfer title to that property to Unocal despite Unocal's best efforts to effectuate such a transfer, make it impossible for Unocal to comply with such requirement by the deadline specified for such compliance. The San Luis Obispo Planning Commission and the Coastal Commission must consider this amendment request.
108. **Prior to the lapse of existing Offer to Dedicate Instrument No. 23796**, Unocal shall offer for dedication to a public agency or private conservation organization approved by the County Planning Director and the Executive Director of the Coastal Commission a public access easement covering an area extending from the mean high tide line, east 300 feet from the southerly to the northerly property lines of the site for the purpose of managed public access (e.g., no public access during the nesting season of the snow plover). In order to expedite acceptance of the Offer to Dedicate, Unocal shall also issue an Indemnification Agreement in form and content as set forth in Exhibit 3 to any entity approved by the County Planning Director and the Executive Director of the Coastal Commission to accept the Offer to Dedicate and the Indemnification Agreement shall provide that it shall take effect upon the recordation by the approved entity of its acceptance of the OTD. The Offer-to-Dedicate shall be effective for at least 25 years after the issuance of a closure letter for the site by the RWQCB and shall be consistent with the requirements of CDP 409-24 issued by the California Coastal Commission on January 4, 1980. Unocal may seek an amendment to this permit requesting a modification of the requirements of this condition on the ground that circumstances beyond Unocal's control, such as a refusal to the current owners of the Guadalupe Dunes to transfer title to that property to Unocal despite Unocal's best efforts to effectuate such a transfer, make it impossible for Unocal to comply with such requirement by the deadline specified for

such compliance. The San Luis Obispo Planning Commission and the Coastal Commission must consider this amendment request.

### **PUBLIC SHORELINE ACCESS**

109. **Prior to the issuance of a construction permit for Stage 1, Unocal shall fund the construction of public access improvements at the Rancho Guadalupe County Park according to the Vision Statement items 3b, 3c and 3d published by the Nature Conservancy. These improvements, at a minimum shall be located above the mean high tide line and in the least environmentally sensitive areas and shall include the following:**
- a. Construct roadside view point
  - b. Construct new public facilities including yearly maintenance for a period of five years.
  - c. Provide interpretive signs for parking lot and roadside viewpoint

### **ENVIRONMENTAL ENHANCEMENT EASEMENTS**

110. The Class I impacts of the past and proposed cleanup, and abandonment and site characterization projects require further mitigation pursuant to CEQA, the County's LCP and the Coastal Act. The approved project will result in significant temporal losses and will have fifteen unavoidable and unmitigable Class I environmental impacts as identified in the certified Final EIR. CEQA requires decision makers to find that benefits of a project override the unavoidable and unmitigable negative environmental impacts of the project. The entire Guadalupe Oil Field site is designated as environmentally sensitive habitat in the San Luis Obispo County certified LCP and the Santa Barbara County certified LCP.

Prior to the issuance of a construction permit for Stage 5 or June 30, 2001 (whichever comes first), Unocal shall in order of preference either:

- I. Execute and record a document in a form and content acceptable to the County Planning Director and the Executive Director of the Coastal Commission, after consultation with the Planning and Development Director of Santa Barbara County, irrevocably offering to dedicate to a public agency or private non-profit association approved by the County Planning Director and the Executive Director of the Coastal Commission after consultation with the Planning and Development Director of Santa Barbara County an open space, habitat protection and public access easement for the purpose of visual resource protection, habitat protection, and managed public access to the Guadalupe Dunes and to the shoreline (consistent with protecting habitat values, e.g., no public access during the nesting season of the snowy plover). Consistent with those purposes, the offer to dedicate shall include the Indemnity Agreement in Exhibit 3. Such easement shall be

located over the entire Guadalupe Oil Field (approximately 2,700-acres) as shown in Exhibit 1. The recorded document shall include the legal descriptions of the entire Guadalupe Oil Field (approximately 2,700-acres).

The offer shall provide that **no development**, as defined in section 30106 of the Coastal Act, and **no grazing**, unless part of an approved habitat restoration plan, shall occur in the entire easement area **except for the following, subject to all otherwise applicable governmental approval requirements:**

- (1) removal of non-native vegetation, and implementation of County and Coastal Commission approved habitat restoration programs; and
- (2) cleanup, remediation and abandonment activities as ordered by the RWQCB and as approved in this or future CDPs or amendments thereto by the County of San Luis Obispo and the Coastal Commission.

AND

- (3) the following development, if approved by San Luis Obispo County as an amendment to this coastal development permit:
  - removal of roads or maintenance of roads for managed public access, installation of minor drainage pipes, planting of native vegetation to improve habitat value, greenhouse or other support facilities for the habitat restoration program, and minor, small-scale development for a potential interpretive center.

The offer shall be recorded free of prior liens and encumbrances which the County Planning Director and the Executive Director of the Coastal Commission determine may affect the interest being conveyed. The offer shall run with the land in favor of the People of the State of California, binding all successors and assignees, and shall be irrevocable for a period of 21 years, such period running from the date of recordation;

OR,

- II. Unocal shall grant fee title to the entire Guadalupe Oil Field (approximately 2,700-acres), as shown in Exhibit 1, to a public agency or private non-profit association for the purposes specifically described and conditioned in I above;

OR,

- III. acquire or cause the acquisition of irrevocable protective easements over a combination of the foredune, backdune, and/or wetland environmentally sensitive habitats in the Guadalupe-Nipomo Dunes Complex totaling approximately 2,700

acres which are the functional biological equivalent of the Guadalupe Oil Field (valued as if the entire Guadalupe Oil Field (approximately 2,700-acres) site were in a natural condition) as determined by habitat experts and agreed upon by the County Planning Director and the Executive Director of the Coastal Commission in consultation with other resource protection agencies. The content and disposition of these easements shall be carried out as specifically described in I above;

OR,

- IV. if Unocal demonstrates to the satisfaction of the Board of Supervisors and the California Coastal Commission that implementation of Options I, II, or III is infeasible, at the discretion of the Board of Supervisors and the California Coastal Commission, Unocal shall pay to the County by June 30, 2001, a mitigation fee in an amount equal to the monetary value of such open space, habitat protection and public access easement (valued as if the entire Guadalupe Oil Field (approximately 2,700-acres) site were in a natural condition) which value shall be agreed upon by Unocal and the County Planning Director and the Executive Director of the Coastal Commission, or if there is no agreement, then by appraisal by an MAI appraiser chosen by the Presiding Judge of the San Luis Obispo Superior Court. The funds will be placed in an interest-bearing account and used by the County within ten years of receipt solely for the purchase and/or habitat restoration of property in the Guadalupe-Nipomo Dunes Complex.

Unocal agrees not to seek any amendment to this condition that would weaken or contravene the intent and purpose of this field-wide irrevocable protective easement or its equivalent option as specified in I, II, III, or IV.

#### **ENFORCEMENT**

111. Failure to satisfy the requirements of any condition of this permit shall constitute a violation under the Coastal Act enforceable by all appropriate means including but not limited to, a cease and desist or a restoration order issued by the Coastal Commission.

#### **REIMBURSEMENT OF COSTS FOR PERMIT OVERSIGHT**

112. Unocal shall fund all necessary costs for condition compliance and the enforcement of this permit by San Luis Obispo County and the California Coastal Commission. These costs will include staff salaries, equipment, travel, and associated operating costs incurred by San Luis Obispo County and the Coastal Commission to monitor compliance with and enforce the conditions of this permit. San Luis Obispo County holds the majority of the responsibility for compliance and enforcement of this permit and holds an ongoing reimbursement agreement with Unocal.

The Executive Director of the Coastal Commission will determine the form and manner of payment by Unocal for the Coastal Commission staff's involvement consistent with requirements of State law and which will ensure efficiency and reasonable costs to Unocal. The Executive Director of the Coastal Commission will prepare a budget and work program specifying all needed funding for the Coastal Commission's involvement in the team effort with San Luis Obispo County to implement this coastal permit.

113. In accepting this permit, Unocal agrees to waive any and all rights to challenge this permit under any legal theory.
114. All plans by Unocal pursuant to this permit shall be submitted to the County Planning and Building Department, the Coastal Commission, and other regulatory agencies in hard copy and electronic form so that the information can be made readily available to the public including via the Coastal Commission's and other agency's internet web pages. Unocal shall work with Cal Poly and University of California Santa Barbara to establish a depository of Guadalupe Oil Field ecological and geological information for use by the public and the universities.

**EXHIBIT G**  
**CONDITIONS OF APPROVAL**  
**OIL FIELD ABANDONMENT**

**APPROVED PROJECT**

1. Prior to commencement of abandonment activities, Unocal shall submit to the County Department of Planning and Building and the Executive Director of the Coastal Commission an amended *Final Pipeline and Surface Facility Abandonment Workplan dated February 1996* that includes removal of the asphalt pad at Tank Battery 8 when it is no longer needed for remediation activities.
2. This Coastal Development Permit/Development Plan (CDP/DP) approval authorizes Unocal to conduct abandonment activities at the Guadalupe oil field pursuant to the *Final Pipeline and Surface Facility Abandonment Workplan dated February 1996* (the "Workplan") as amended pursuant to Condition 1 and consistent with the mitigation measures of the certified Final EIR.
3. To make changes to the approved project described in the Workplan, Unocal shall submit to the County Department of Planning and Building a written request with supporting materials pursuant to 23.02.038 of the Coastal Zone Land Use Ordinance. The Planning Director may approve a requested change upon verification of its conformity with Title 23, provided that such approval shall not modify the effective date of the land use permit. Major changes to the project, as determined by the Planning Director in consultation with the Executive Director of the Coastal Commission, shall be requested through a CDP/DP modification application for Planning Commission consideration. Unocal shall send a copy of all proposed project amendments to the Executive Director of the Coastal Commission concurrent with its submittal to the County. This condition shall be implemented by Unocal throughout the project.

**PHASING SCHEDULE**

4. Abandonment activities as described in the Workplan will be completed by the end of Stage 6 remediation projects. This approval authorizes an extended phasing schedule pursuant to CZLUO section 23.02.042 allowing abandonment activities to be conducted concurrently with remediation activities.

**COMMENCEMENT OF APPROVED ACTIVITIES**

5. Abandonment activities shall commence prior to or concurrently with Stage 1 remediation projects. Unocal shall request issuance of a Notice To Proceed from the

County Department of Planning and Building after compliance with all pre-project conditions.

## **SURFACE RESTORATION AND REVEGETATION**

6. Prior to September 1, 1999, Unocal shall submit to the County Department of Planning and Building and the Executive Director of the Coastal Commission for review and approval a **Surface Restoration and Revegetation Plan**. The Plan shall be based on the presumption that all man-made features established on the Guadalupe oilfield for oil field purposes shall be removed and the areas recontoured, restored and revegetated, unless Unocal demonstrates to the reviewing agencies' satisfaction that justification exists to allow any features to remain in place. The purpose of this plan is to identify the operations that must take place in order to accomplish this goal and establish a time schedule. A precise schedule cannot be prepared for all tasks because site characterization is ongoing and because oil spill remediation, oilfield abandonment and infrastructure removal will occur in temporal phases and stages within phases. Nevertheless, a phased approach can be described with a realistic schedule for the first stages. Biannually beginning September 1, 2001, Unocal shall submit to the County Department of Planning and Building and the Executive Director of the Coastal Commission for review and approval an update of this plan with changes and revised schedules. The Surface Restoration and Revegetation Plan shall include, but not necessarily be limited to, the following requirements:
  - a. Description of the ultimate disposition such as removal, recontouring and revegetation of all oil well pads, roads, pipeline corridors, surface facilities and pads, storage tanks and pads, office sites, power line poles, traffic barriers and all other site features related to oil field operations. Unless separate performance criteria are developed as part of the Plan, ripping of roads may be considered an acceptable restoration technique so long as the vegetation restoration performance - criteria are met for the ripped areas.
  - b. Identification, designation, and mapping of all features to be removed.
  - c. Phasing of removal and surface restoration activities and, to the extent feasible, a schedule for completion.
  - d. All sites subject to removal and surface restoration activities shall be included in the Habitat Restoration, Revegetation, and Monitoring Plan (Condition 64 in Exhibit F).
  - e. Surface restoration shall be coordinated with the Revegetation, Habitat Restoration and Monitoring Plan.
  - f. Surface restoration and revegetation activities shall be coordinated with the property owner.
  - g. Consultation with appropriate agencies.

- h. Determination of acreage of the area proposed for restoration.
- i. The site-specific plans, as ultimately approved by County Department of Planning and Building, the Executive Director of the Coastal Commission, and, as appropriate, CDFG, USFWS, and ACOE shall be implemented in phases as remediation and abandonment activities on the site allow.

### **PROJECT MONITORING**

7. **Prior to the commencement of abandonment activities**, Unocal shall fund the hiring of an independent project monitor(s) to be selected by the County, the RWQCB and the Executive Director of the Coastal Commission after consultation with Unocal and other permitting agencies. The monitor(s) shall be under contract with the County, to act as project monitor(s) and condition compliance inspector for the County of San Luis Obispo, the RWQCB, the Coastal Commission and other permitting agencies. The monitor shall prepare a specific mitigation monitoring tracking plan and submit it to County Department of Planning and Building, the RWQCB, the Executive Director of the Coastal Commission and other permitting agencies for review and approval.
8. **Prior to the commencement of abandonment activities**, Unocal shall submit evidence to the County Department of Planning and Building that permits from all regulatory agencies have been issued. These agencies include but are not limited to:
  - a. Regional Water Quality Control Board
  - b. California Dept. Of Fish & Game
  - c. U.S. Army Corps of Engineers
  - d. U.S. Fish & Wildlife Service
  - e. California Coastal Commission
  - f. State Lands Commission
  - g. Air Pollution Control District
  - h. Division of Oil & Gas and Geothermal Resources

### **SURFICIAL GEOLOGY**

9. For Category A or B pipelines in steep slope areas (> 25 percent slope), the pipeline segments shall be abandoned in place if preliminary activities cause shallow sliding. For Category C pipelines in steep slope areas, the number of access points shall be minimized to maximize the lengths of individual pipe runs cut, capped, and filled.
10. To impede the initiation of sliding during abandonment activities Unocal shall apply a degradable binder to the sand surface to form a temporary, low strength crust after receiving approval from the County Department of Planning and Building.

11. Prior to commencement of abandonment activities, Unocal shall submit to the County Department of Planning and Building, CDFG/OSPR and the Executive Director of the Coastal Commission an analysis of the maximum potential drainage volume for each pipeline segment to be abandoned. During abandonment of pipelines equal to or larger than 6 inches, emergency oil spill response equipment, sufficient to contain and cleanup the maximum spill volume, shall be brought to the site where the pipeline is to be cut.
12. To minimize vibrations Unocal shall use the lightest suitable equipment for activities near steep slopes.
13. Slope areas shall be visually observed during vibration-inducing activities, such as driving sheetpile, to detect early indications of slope movement. Construction activities will be halted temporarily, if necessary.
14. Sections of pipelines shall be drained, prepared for removal or abandonment, removed or filled with concrete or sand slurry, and the area restored to pre-existing contours and vegetation over a period of consecutive days.
15. Both Category A and B steel pipelines must be pulled along the pipeline axis wherever feasible or alternatively may be lowered down the face of a dune as opposed to dragging the pipe up the face of the slope.
16. Depressions caused by pipeline removal shall be backfilled along pipeline routes that are in active and stable dunes if their alignment is closer than 20 degrees to the dominant wind direction (i.e., northwest to southeast) unless otherwise determined by the independent Onsite Environmental Coordinator. Sediment of a compatible grain size must be used as backfill material in active dune areas consistent with the requirements of Condition 12 in Exhibit F.
17. Unocal shall consult with a qualified geologist approved by the County Department of Planning and Building and the Executive Director of the Coastal Commission to determine if backfill is required, to monitor sand migration in areas where depressions are deeper than six inches, and to evaluate stability at the toe of slopes steeper than 25 degrees.
18. All Category C pipelines seaward of the "B" road and located in bare sand areas shall be removed not simply abandoned in place. Excavation procedures and mitigation measures for Category A and B pipelines shall apply.
19. All bell hole excavations and stockpile areas must be restored to pre-construction contours and revegetated to stabilize the areas pursuant to Conditions 63 and 64 of Exhibit F.

20. Bare sandy areas shall be revegetated immediately after facilities have been removed and grading has taken place.
21. Any temporary roads or vehicle accessways that need to be constructed shall be aligned at angles farther out than 20 degrees to the dominant wind direction (i.e., northwest to southeast) and shall not cross ridgelines unless otherwise determined by the monitors.

### **BIOLOGICAL RESOURCES**

22. Unocal shall implement all Conditions under the heading Onshore Biological Resources in Exhibit F (Conditions 62 – 76).

### **AIR QUALITY**

23. The former Guadalupe Oil field Cleanup Project is subject to the federal requirements specified in Code of Federal Regulations (CFR) section 61.145 "Standards for Demolition and Renovation", as well as other applicable CFR sections. This includes, but is not limited to:
  - The removal of any load bearing wall; or the removal or disturbance of any asbestos containing materials; or renovation of any structure.
  - The moving of any structure.
  - The demolition of any structure.

Unocal shall prepare, to the satisfaction of the SLOAPCD, an Asbestos Management Plan showing compliance with the applicable CFR requirements. The Plan shall include, but not be limited to, the following information:

- a. contractors roles and responsibilities for work involving the asbestos survey, renovation and demolition, air monitoring clearance checks, etc.
- b. an asbestos survey of the site and all affected structures by an accredited person;
- c. a detailed time schedule and task list;
- d. provision for an independent, accredited person to work with the District to assure compliance;
- e. appropriate training in asbestos work hazards specified for all workers on-site;
- f. other elements as appropriate.

The project is considered to be one site for the purpose of asbestos requirements. Thus, it is required that Unocal shall submit a comprehensive notification initially, with appropriate updates as required.

24. Emissions from pipeline and tank draining and purging operations shall be controlled with a suitable vapor recovery and removal system. Proposed pipeline and tank purging and draining techniques and emission control systems shall be reviewed by the SLOAPCD prior to initiation of abandonment activities.

### **ENVIRONMENTAL ENHANCEMENT EASEMENT**

25. The Class I impacts of the past and proposed clean up and site characterization projects require further mitigation pursuant to CEQA, the County's LCP and the Coastal Act. The approved project will have fifteen unavoidable and unmitigable Class I environmental impacts as identified in the certified Final EIR. CEQA requires decision makers to find that benefits of a project over ride the negative environmental impacts of the project.

Unocal shall implement Condition 110 of Exhibit F.

### **ENFORCEMENT**

26. Failure to satisfy the requirements of any condition of this permit shall constitute a violation under the Coastal Act enforceable by all appropriate means including but not limited to, a cease and desist or a restoration order issued by the Coastal Commission.

### **REIMBURSEMENT OF COSTS FOR PERMIT OVERSIGHT**

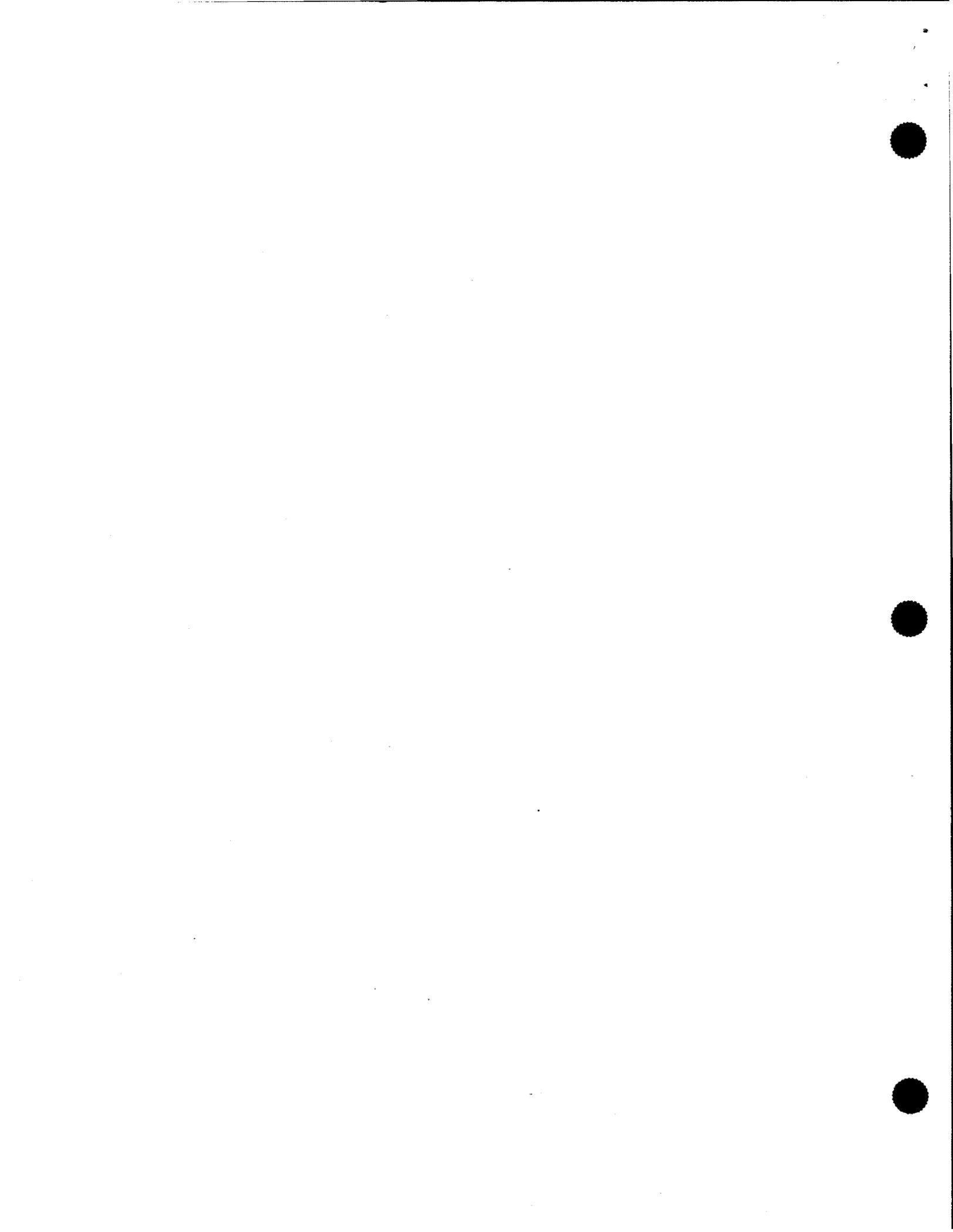
27. Unocal shall fund all necessary costs for condition compliance and the enforcement of this permit by San Luis Obispo County and the California Coastal Commission. These costs will include staff salaries, equipment, travel, and associated operating costs incurred by San Luis Obispo County and the Coastal Commission to monitor compliance with and enforce the conditions of this permit. San Luis Obispo County holds the majority of the responsibility for compliance and enforcement of this permit and holds an ongoing reimbursement agreement with Unocal.

The Executive Director of the Coastal Commission will determine the form and manner of payment by Unocal for the Coastal Commission staff's involvement consistent with requirements of State law and which will ensure efficiency and reasonable costs to Unocal. The Executive Director of the Coastal Commission will prepare a budget and work program specifying all needed funding for the Coastal Commission's involvement in the team effort with San Luis Obispo County to implement this coastal permit.

28. In accepting this permit, Unocal agrees to waive any and all rights to challenge this permit under any legal theory.
29. All plans by Unocal pursuant to this permit shall be submitted to the County Planning and Building Department, the Coastal Commission, and other regulatory agencies in hard

copy and electronic form so that the information can be made readily available to the public including via the Coastal Commission's and other agency's internet web pages. Unocal shall work with Cal Poly and University of California Santa Barbara to establish a depository of Guadalupe Oil Field ecological and geological information for use by the public and the universities.

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Revised Draft Version 1.2

Assessment of Ecological Risks Associated  
with Polychlorinated Biphenyls and Other  
Non-Diluent Compounds at the  
5X Beach and A2A North Areas,  
Guadalupe Oil Field  
San Luis Obispo County, California  
18 August 1999

## Executive Summary

The California Central Coast Regional Water Quality Control Board (RWQCB) directed Unocal to remediate hydrocarbon-affected soils at the 5X Beach and A2A North areas of the Guadalupe Oil Field (GOF), San Luis Obispo County, California, by removing contaminated soil. The goal for these areas is to achieve a mean total petroleum hydrocarbon (TPH) concentration of less than 700 parts per million (mg/kg) in the soil. Remediation will consist of excavation, stockpiling, and land farming the hydrocarbon-affected soil. Prior to beginning remedial actions, polychlorinated biphenyls (PCBs) and other non-diluent compounds (NDCs) were detected in soil and diluent from the 5X Beach and A2A North areas. NDCs that were assessed included dioxins and furans, pesticides, volatile and semivolatile organics, and metals. A phased assessment approach was employed to answer the following three questions concerning potential ecological risks associated with PCBs and other NDCs and remedial actions planned for the 5X Beach and A2A North areas:

- 1) Do PCBs or other NDCs occur at sufficiently high concentrations to pose a risk to ecological receptors that will reside on or near the stockpile or land farm areas?
- 2) Will the 700 mg/kg mean TPH excavation criterion protect terrestrial ecological receptors resident at the 5X Beach and A2A North areas after the excavation is completed?
- 3) If the Santa Maria River floods the excavated sites, or if groundwater from the excavated sites seeps to adjacent aquatic habitats, will the 700 mg/kg mean TPH excavation criterion protect freshwater and marine ecological receptors resident at or near the 5X Beach and A2A North excavation areas?

This assessment was developed through a multi-party mediation process. Representatives of each participating party reviewed, critiqued, and ultimately approved each phase of the assessment. Participants were the RWQCB, the National Oceanographic and Atmospheric Agency (NOAA), the California Department of Fish and Game - Office of Spill Prevention and Response, the U.S. Fish and Wildlife Service, and Unocal. Concur, Inc mediated the assessment process. The U.S. Environmental Protection Agency and the California Environmental Protection Agency, Office of Environmental Health Hazard Assessment served as consultants to the RWQCB. LFR/Levine-Fricke and CH2M HILL served as consultants to Unocal. Dr. J.M. O'Connor served as a neutral PCB consultant to CONCUR, Inc.

The data used in the assessment were measurements of PCBs and other NDC concentrations in the soil at the 5X Beach and A2A North areas. Mathematical models were used to estimate NDC concentrations in biota and surface water.

Exposure estimates from these data were compared to toxicity data from published literature. Risks to terrestrial and aquatic receptors were evaluated under two general scenarios, the stockpile/land farm scenario and the post-remediation scenario:

- 1) Two groups of soils were evaluated under the stockpile and land farm scenario. One group of soils was from the 5X Beach and A2A North area diluent plumes containing TPH concentrations greater than 700 mg/kg. The second group of soils was from associated infrastructure areas, such as sumps and drilling pads, containing greater than 100 mg/kg TPH.
- 2) Three groups of soils were evaluated under the post-remediation scenario. One group was soils from the 5X Beach and A2A North area diluent plumes containing TPH concentrations less than 700 mg/kg. A second group was soils from the 5X Beach and A2A North area diluent plumes containing TPH concentrations less than 100 mg/kg. The third group was soils from associated infrastructure areas, such as sumps and drilling pads, containing TPH concentrations less than 100 mg/kg.

Risks to terrestrial ecological receptors were assessed under the stockpile and land farm scenario. Risks to terrestrial, freshwater, and marine ecological receptors were assessed under the post-remediation scenario, in which the Santa Maria River floods the excavation, or in which groundwater from the site seeps to adjacent aquatic habitats.

The potential risk posed by concentrations of metals and metalloids in each of the five soil groups were evaluated by comparison to: 1) concentrations of the same chemicals measured in five soil samples (reference samples) collected from uncontaminated locations on the GOF; 2) concentrations of the same chemicals measured in background soils from agricultural areas from throughout California; and 3) background concentrations of the same chemicals measured throughout the western United States. Wilcoxon signed-rank tests were performed to determine if metals and metalloids in soils from the 5X Beach and A2A North areas differed significantly from local background. Graphical comparisons were performed between concentrations in 5X Beach and A2A North area soils and from California and the western United States.

With the exception of soils from the sumps containing greater than 100 mg/kg TPH, concentrations of metals and metalloids in soils from the 5X Beach and A2A North areas were not significantly greater than the metals in local background soils. Six metals (chromium, cobalt, lead, nickel, vanadium, and zinc) in soils from the sumps that contained more than 100 mg/kg TPH were greater than local background concentrations. However, concentrations of all the metals in all the soils were low compared to background concentrations in soils from California and the western United States. Because concentrations of chromium, cobalt, lead, nickel, vanadium, and zinc in soils from the sumps greater than 100 mg/kg TPH scenario exceeded local background concentrations, these metals remained in the assessment as contaminants of potential ecological concern (COPECs). All other metals and metalloids under all scenarios were dropped from further consideration as COPECs.

A two-step screening approach was used throughout this assessment. In Step 1, exposure estimates based on maximum concentrations and conservative exposure assumptions were compared to published toxicity data. The data used for Step 1 were the concentrations corresponding to the highest doses that did not cause any adverse effect on receptors (NOAEL; no observed adverse effects level). Those NDCs that failed the Step 1 screen were reassessed in a second step. For Step 2, NDC exposure estimates were recalculated based on ecologically realistic exposure assumptions and compared to the lowest doses associated with adverse effects (LOAEL; the lowest observed adverse effects level).

Conservative exposure estimates exceeded toxicity values for some receptors under some exposure scenarios. However, the inclusion of ecologically realistic exposure assumptions or toxicity values resulted in the elimination of all NDCs (including chromium, cobalt, lead, nickel, vanadium, and zinc in soils from the Sumps greater than 100 mg/kg TPH scenario) as potential ecological risk drivers with two exceptions. These exceptions were xylene for freshwater and marine sediment biota, and PCBs (PCB 1254 and total PCBs) for fish and piscivorous birds and mammals under the flood scenario. Should the Santa Maria River flood the excavation, there is little potential for xylene to affect either marine or freshwater biota. Effects due to xylene exposure were considered unlikely for three reasons: 1) xylene was detected at only low concentrations in about 1 in 10 samples; 2) there is a high potential for the mixing and dilution of sediments and their associated xylene during flooding; and 3) xylene toxicity data are of limited and uncertain applicability.

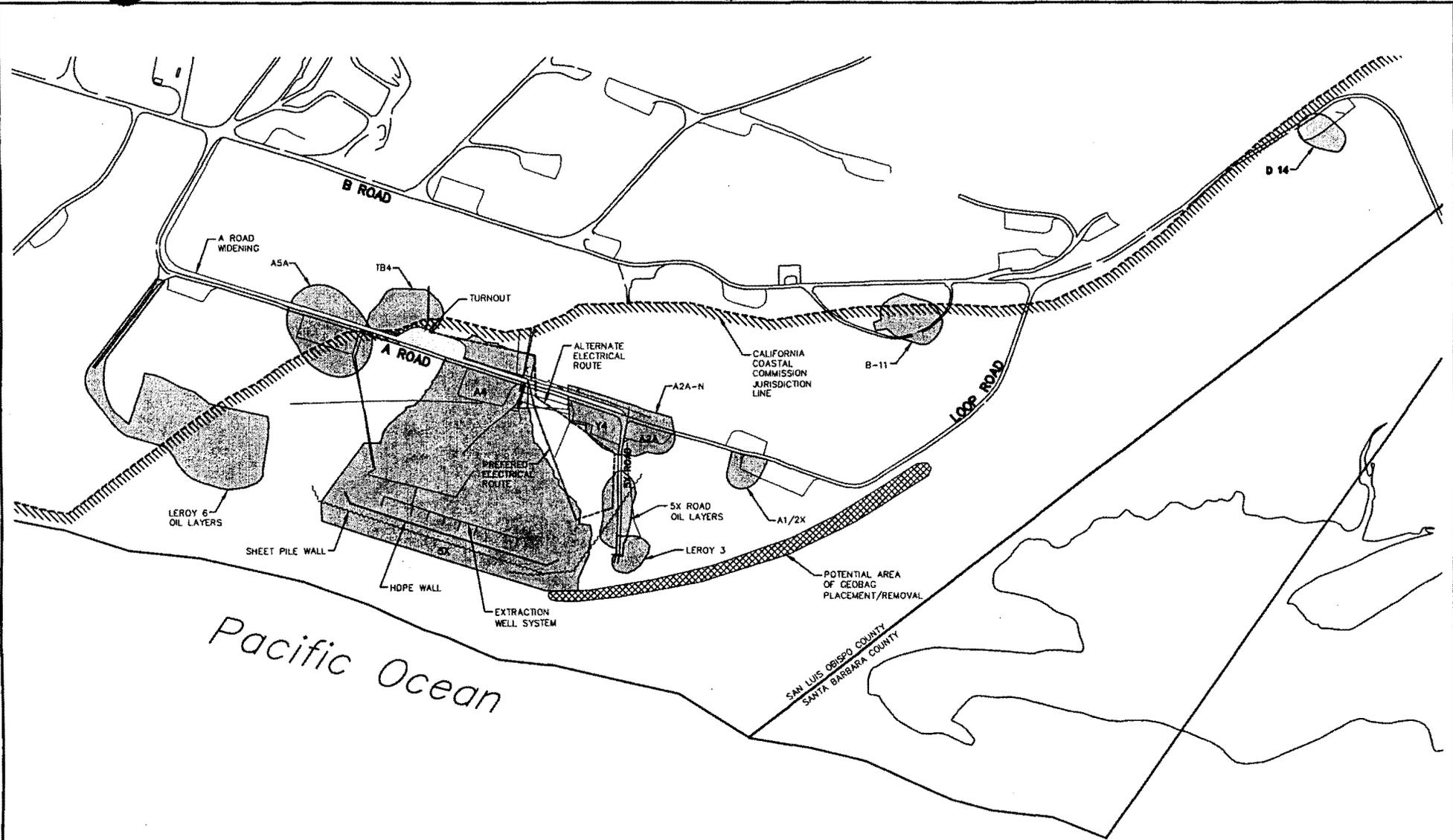
The potential for PCBs to cause adverse effects on fish and piscivorous birds and mammals under the flood scenario was considered unlikely for at least four reasons: 1) PCB 1254 was detected in only 1 of 64 samples; 2) hazard quotients for both PCB 1254 and total PCBs based on the assumption of continuous exposure to material from the 5X Beach and A2A North areas were all less than 13 and generally less than five; 3) fish and piscivorous birds and mammals are highly mobile and unlikely to live and forage exclusively at the site; and 4) dilution of sediments and their associated PCBs during a flood event is likely to be dramatic, easily exceeding a factor of 13.

The ecological risk assessment shows no substantial risk for plants or terrestrial birds and mammals from any NDC under either the stockpile and land farm scenarios, or under the terrestrial post-remediation scenarios. Similarly, no substantial risks were estimated for amphibians under the flood or groundwater seepage scenarios, or for aquatic birds and mammals and freshwater and marine fish under the groundwater scenarios.

The purpose of this assessment was to determine if the planned remedial actions for the diluent- and NDC-affected materials from the 5X Beach and A2A North areas at the GOF present risks to biota at or adjacent to the stockpile or land farm locations, and to determine if substantial residual risks to ecological receptors could remain following remediation. No substantial risks were identified for plants, birds, or mammals that may reside on or adjacent to the stockpile and land farm locations. Neither terrestrial plants, birds and mammals, freshwater and marine sediment biota

and fish, aquatic birds and mammals, nor the red-legged frog will be exposed to any substantial risks that can be related to concentrations of NDCs that will remain in soils at the 5X Beach and A2A North areas following remediation. The results of this ecological risk assessment show that the planned remedial actions at the 5X Beach and A2A North areas pose no risk to ecological receptors. Continuation of planned remedial actions at the site is recommended.

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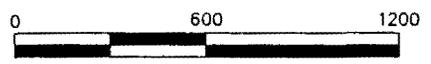
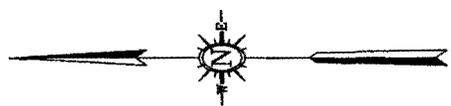


Pacific Ocean

SAN LUIS OBISPO COUNTY  
SANTA BARBARA COUNTY

**LEGEND**

- OVERHEAD LINE (PREFERRED ROUTE)
- OVERHEAD LINE (ALTERNATE ROUTE)
- ////// CALIFORNIA COASTAL COMMISSION ORIGINAL JURISDICTION (LANDS BELOW THE MEAN HIGH TIDE LINE AND LANDS WHERE THE PUBLIC TRUST MAY EXIST).
- ~~~~~ SHEET PILE
- \_\_\_\_\_ PIPELINE
- FENCELINE
- ██████ DISTURBED AREA
- ▭ A ROAD WIDENING
- XXXXXX GEOBAG PLACEMENT/REMOVAL



1 INCH = 600 FEET

**Cannon ASSOCIATES**  
ENGINEERS  
PLANNERS  
SURVEYORS  
361 Pacific Street  
San Luis Obispo, CA 93401  
(805) 944-7947

**FUTURE BEACH ACTIVITIES  
WITHIN CCC JURISDICTION  
FORMER GUADALUPE OIL FIELD**

Unocal Corporation  
Los Angeles, California

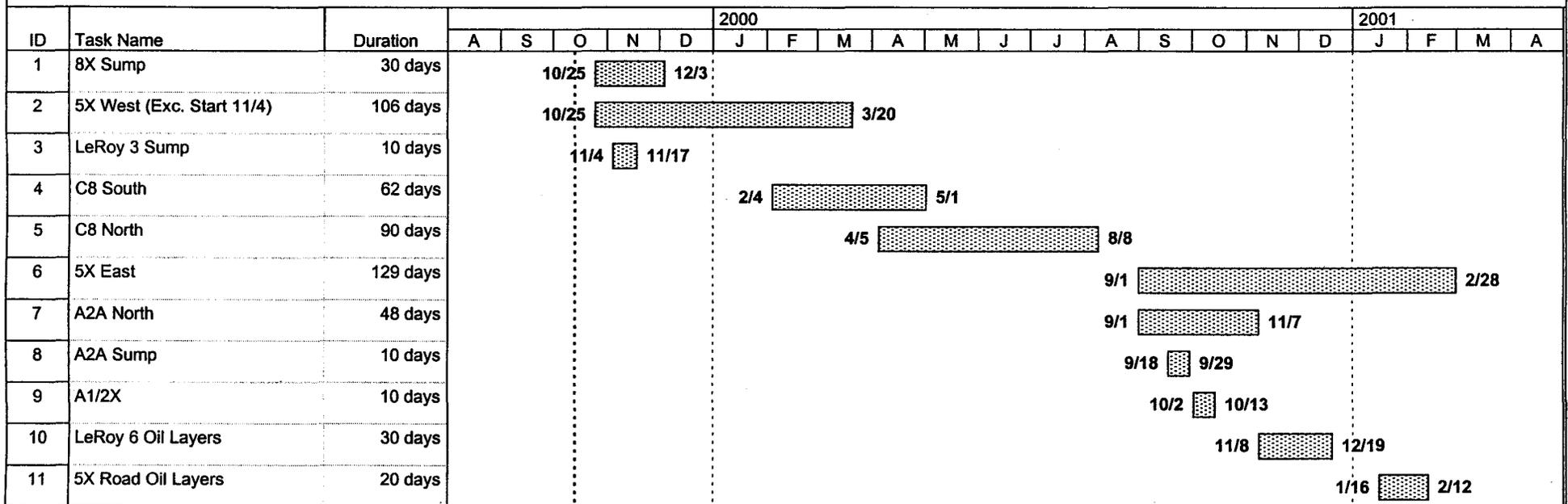
UNOCAL

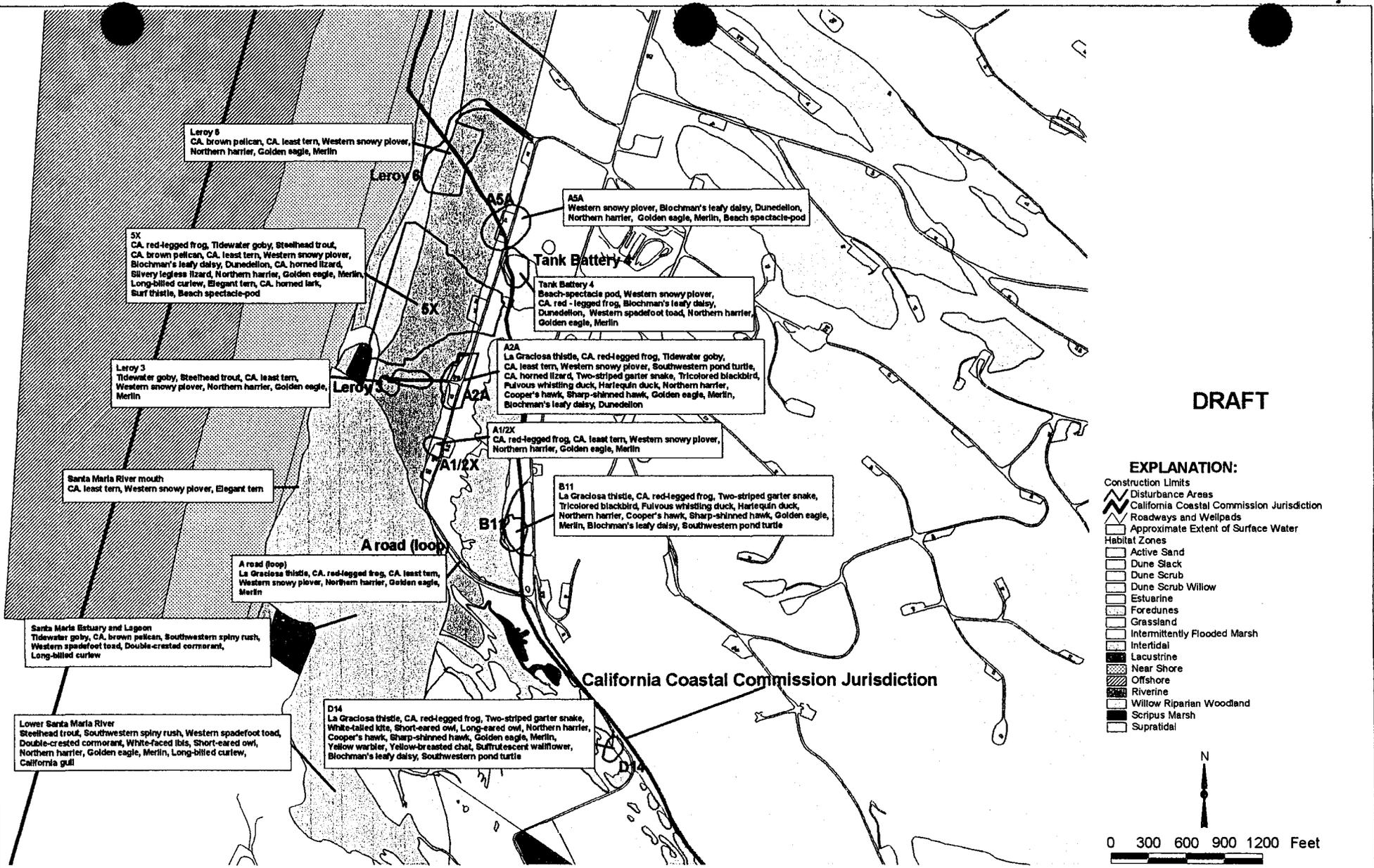
DRAWING NUMBER  
**EXHIBIT-2A**

CADD FILE: EX0342 DATE: 9/9/98 BY: JH REV: 1

EXHIBIT 10 E-99-009

**Proposed CAO Excavation Schedule (DRAFT)  
(Through February 2001)**

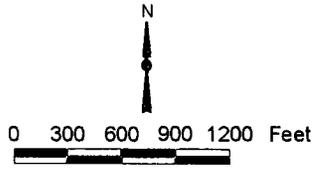




DRAFT

**EXPLANATION:**

- Construction Limits
- Disturbance Areas
- California Coastal Commission Jurisdiction
- Roadways and Wellpads
- Approximate Extent of Surface Water
- Habitat Zones
  - Active Sand
  - Dune Slack
  - Dune Scrub
  - Dune Scrub Willow
  - Estuarine
  - Foredunes
  - Grassland
  - Intermittently Flooded Marsh
  - Intertidal
  - Lacustrine
  - Near Shore
  - Offshore
  - Riverine
  - Willow Riparian Woodland
  - Scripus Marsh
  - Supratidal



California Coastal Commission Jurisdiction

Leroy 6  
CA. brown pelican, CA. least tern, Western snowy plover,  
Northern harrier, Golden eagle, Merlin

A5A  
Western snowy plover, Blochman's leafy daisy, Dunedillon,  
Northern harrier, Golden eagle, Merlin, Beach spectacle-pod

5X  
CA. red-legged frog, Tidewater goby, Steelhead trout,  
CA. brown pelican, CA. least tern, Western snowy plover,  
Blochman's leafy daisy, Dunedillon, CA. horned lizard,  
Silvery legless lizard, Northern harrier, Golden eagle, Merlin,  
Long-billed curlew, Elegant tern, CA. horned lark,  
Surf thistle, Beach spectacle-pod

Tank Battery 4  
Beach-spectacle pod, Western snowy plover,  
CA. red-legged frog, Blochman's leafy daisy,  
Dunedillon, Western spadefoot toad, Northern harrier,  
Golden eagle, Merlin

Leroy 3  
Tidewater goby, Steelhead trout, CA. least tern,  
Western snowy plover, Northern harrier, Golden eagle,  
Merlin

A2A  
La Graciosa thistle, CA. red-legged frog, Tidewater goby,  
CA. least tern, Western snowy plover, Southwestern pond turtle,  
CA. horned lizard, Two-striped garter snake, Tricolored blackbird,  
Fulvous whistling duck, Harlequin duck, Northern harrier,  
Cooper's hawk, Sharp-shinned hawk, Golden eagle, Merlin,  
Blochman's leafy daisy, Dunedillon

A1/2X  
CA. red-legged frog, CA. least tern, Western snowy plover,  
Northern harrier, Golden eagle, Merlin

Santa Maria River mouth  
CA. least tern, Western snowy plover, Elegant tern

B11  
La Graciosa thistle, CA. red-legged frog, Two-striped garter snake,  
Tricolored blackbird, Fulvous whistling duck, Harlequin duck,  
Northern harrier, Cooper's hawk, Sharp-shinned hawk, Golden eagle,  
Merlin, Blochman's leafy daisy, Southwestern pond turtle

A road (loop)  
La Graciosa thistle, CA. red-legged frog, CA. least tern,  
Western snowy plover, Northern harrier, Golden eagle,  
Merlin

Santa Maria Estuary and Lagoon  
Tidewater goby, CA. brown pelican, Southwestern spiny rush,  
Western spadefoot toad, Double-crested cormorant,  
Long-billed curlew

Lower Santa Maria River  
Steelhead trout, Southwestern spiny rush, Western spadefoot toad,  
Double-crested cormorant, White-faced ibis, Short-eared owl,  
Northern harrier, Golden eagle, Merlin, Long-billed curlew,  
California gull

D14  
La Graciosa thistle, CA. red-legged frog, Two-striped garter snake,  
White-tailed kite, Short-eared owl, Long-eared owl, Northern harrier,  
Cooper's hawk, Sharp-shinned hawk, Golden eagle, Merlin,  
Yellow warbler, Yellow-breasted chat, Sulfrutescent wallflower,  
Blochman's leafy daisy, Southwestern pond turtle

Unocal - Guadalupe

Construction Limits with  
Sensitive Plant and Animal Species

Project No. 6607



**Onshore Sensitive Species  
Found Within the Guadalupe Oil Field**

**Sites Within Coastal Commission Original Permit Jurisdiction**

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The following sections provide information on federally listed species, state listed species, or species of special concern found (or suspected to be within) the project sites covered by this permit.

**FEDERAL- AND STATE-LISTED SPECIES**

**Plants**

La Graciosa thistle (*Cirsium loncholepis*).

Federal:	Candidate for listing as threatened or endangered
State:	Threatened
California Native Plant Society:	List 1B

The La Graciosa thistle is a low-growing, short-lived perennial or biennial species that blooms primarily from June through August. This species is known from fewer than 20 occurrences in southern San Luis Obispo and northern Santa Barbara Counties. It inhabits margins of coastal wetlands and low-lying swales or dune slacks in coastal dunes. The Santa Maria River mouth area supports the largest concentration of this species, which is most frequently found in grassy patches on the upper margins of marshes associated with the Santa Maria River estuary. Declining water tables associated with long-term drought have dried out wetland habitats and reduced populations of this species. This species is threatened by coastal development, recreational use of dune habitats and grazing. Several populations of this species have been found within the Guadalupe oil field in dune swales and close to the Santa Maria River estuary.

Surf thistle (*Cirsium rhothophilum*)

Federal:	Candidate for listing as threatened or endangered
State:	Threatened
California Native Plant Society:	List 1B

Surf thistle is a perennial herb that flowers only once after reaching a certain size, which may take up to five years. Blooming stalks are usually produced from April through July. This thistle has a limited distribution and is known to occur in a few scattered locations in coastal bluffs and has dunes from Santa Barbara County to southern San Luis Obispo County, where it is endemic. This species is threatened by recreational use of dune habitats, including vehicles and foot traffic, and non-native species. Several colonies of this species have been found on larger, more developed dune hummocks in the foredune habitat within the Guadalupe oil field.

Beach spectacle-pod (*Dithyrea maritima*)

Federal: Unlisted  
State: Threatened  
California Native Plant Society: List 1B

Beach spectacle-pod is a low-growing, perennial herb with spreading rhizomes that blooms from April to August. This plant occurs in foredunes and active sand dunes close to the shore at a few localized sites from Baja to San Luis Obispo County. This plant has been extirpated from part of its former range and is threatened by habitat loss due to recreation and development. At the Guadalupe oil field it is found in the foredune habitat on high dune hummocks and on the margins of open sand habitats within 3,000 feet of the shore.

**Wildlife**

California red-legged frog (*Rana aurora draytonii*)

Federal: Threatened  
State: Species of Special Concern

The historical range of the California red-legged frog extended from near Point Reyes National Seashore in Marin County south to northwestern Baja California, and inland to approximately Redding in Shasta County. The frog has sustained a 70 percent reduction in its geographic range in California, and currently San Luis Obispo and Santa Barbara Counties support the greatest number of drainages still occupied by this species. This frog inhabits ponds and streams, permanent water, and dense aquatic vegetation within and along edges of aquatic habitat. This species is usually observed near water but can move long distances over land between water sources during the rainy season. Summer habitat for this frog includes all aquatic and riparian areas within the range of the species and also any landscape features that provide cover and moisture during the dry season within 300 feet of a riparian area. This species has been recorded in several habitat types in the Guadalupe oil field.

The mating season is short, lasting only 1-2 weeks at any given location, and occurs between late November and early April. Larvae spend most of the daylight hours concealed in submerged vegetation or organic debris. The frogs may live 8 to 10 years. Juvenile frogs have been observed to be active both night and day, whereas adult frogs are mainly active at night.

Tidewater goby (*Eucyclogobius newberryi*)

Federal: Endangered  
State: Species of Special Concern

The tidewater goby formerly inhabited lower stream reaches and coastal lagoons from Del Norte County to San Diego County. The tidewater goby has been extirpated from approximately 50 percent of the coastal lagoons within its historic range, with most of these losses in southern California. Most of the remaining populations are small and threatened by a variety of human and natural factors. The decline can be attributed to the diversion of coastal streams, the use of pesticides, and the alteration of its preferred habitat. This species lives on bottom substrate in shallow, slow-moving waters. Spawning takes place primarily from late April to July; larval

gobies are found around vegetation for a short time and then also become bottom-dwellers. This species has been documented as occurring in the lagoon at the mouth of the Santa Maria River; the gobies can migrate up the river during the winter when water is present.

Steelhead (*Oncorhynchus mykiss*)

Federal: Endangered  
State: Unlisted

Steelhead and rainbow trout represent two alternative life history strategies of this species. Steelhead are anadromous (migrating from the ocean up rivers and streams to spawning grounds, with young returning to the ocean for further growth and development, then back to their natal streams for spawning). Rainbow trout represent a non-anadromous life history adopted by permanent residents of freshwater streams. Many native steelhead populations have become extinct, and numbers of steelhead have declined in most of the streams still utilized. Most Pacific Coast races of steelhead are now federally listed as endangered or threatened (this listing does not include non-anadromous rainbow trout present in the same watersheds). Santa Maria River steelhead would be included within the Southern California grouping of steelhead, which is listed as endangered. Steelhead historically migrated through the lower Santa Maria River. It is possible, though unconfirmed, that small numbers of migrants still pass through. However, use of the lower part of the river as a staging or rearing area is not known or expected.

California brown pelican (*Pelecanus occidentalis californicus*)

Federal: Endangered  
State: Endangered

Brown pelicans are found in saltwater habitats along the California coastline. They have declined throughout their range beginning at least in the late 1960s due to pesticide (especially DDT) accumulation through the food chain. Populations have grown since DDT use was curtailed. Brown pelicans are regularly found in fairly high numbers (20-1200) at the Santa Maria River mouth and at several sites within the Guadalupe oil field. Pelicans bathe in the river, rest on the sand spit, and forage in the ocean just beyond the breakers. Brown pelican numbers are highest in July, lowest in late winter and early spring.

California least tern (*Sterna antillarum browni*)

Federal: Endangered  
State: Endangered

California least terns have historically nested along the California coast as far north as San Francisco. Locally, this species currently nests only near the mouths of the Santa Maria and Santa Ynez rivers and several locations on Vandenberg Air Force Base. Birds are present from late April to mid-August. Loss of habitat and nesting colony disturbance by humans, pets and vehicles have contributed to the decline. Nests are small depressions along sandy beaches and mud and sand flats a distance from the shoreline, and close to lagoons and estuaries. California least terns were observed nesting in the Guadalupe oil field in 1994, and have since been seen foraging over the ocean and rarely in the Santa Maria River habitats.

Western snowy plover (*Charadrius alexandrinus*)

Federal: Threatened  
State: Species of Special Concern

Snowy plovers are small shorebirds that roost and nest in depressions in the sand above the drift zone. They are fairly common but local winter visitors, formerly found on sandy beaches throughout the state but now declining in abundance. Disturbance to nest sites by humans and dogs is the primary reason for the decline, although loss of habitat is also a significant factor. Nesting begins as early as the second week of March, continuing into September; birds may sometimes lay two clutches. The next sites at Guadalupe range from the flat areas of foredunes to gravelly areas such as abandoned drilling pads or roads away from the dunes. In 1996, 54 snowy plover nests were recorded on the Guadalupe oil field. Not only is the area around the Santa Maria River mouth an important breeding site, it is also considered one of the principal snowy plover wintering sites for the central coast of California.

**OTHER SENSITIVE SPECIES**

**Plants**

Blochman's leafy daisy (*Erigeron blochmaniae*)

Federal: Unlisted  
State: Unlisted  
California Native Plant Society: List 1B

Blochman's leafy daisy is a perennial herb that blooms from June through October. This species is found at scattered locations on stabilized sand dunes from Los Osos to northern Santa Barbara County and on the Nipomo Mesa. Development has extirpated many populations of this plant. This species occurs in several locations in dune scrub habitats in the Guadalupe oil field. It is occasionally found in disturbed habitats such as adjacent to roads and pads and margins of open sand areas. It appears to be more abundant in the western and northeastern portions of the oil field.

Suffrutescent wallflower (*Erysimum insulare suffrutescens*)

Federal: Unlisted  
State: Unlisted  
California Native Plant Society: List 4

Suffrutescent wallflower is a subshrub that blooms from March to May. It occurs in coastal sand dunes from Morro Bay to Los Angeles County. It is threatened by development and recreational use of dune habitats. This plant is widespread in the Guadalupe oil field and is often a common component of dune scrub habitat.

Southwestern spiny rush (*Juncus acutus leopoldii*)

Federal: Unlisted  
State: Unlisted  
California Native Plant Society: List 4

Southwestern spiny rush is a perennial herb that blooms during the summer. It is restricted to saline and brackish marshes from San Luis Obispo County south to Baja California. This species is threatened by urbanization and flood control activities. It is present in the Guadalupe oil field along the Santa Maria River.

Dunedelion (*Malacothrix incana*)

Federal: Unlisted  
State: Unlisted  
California Native Plant Society: List 4

Dunedelion is a perennial herb that blooms from May through December. This plant is found in scattered locations in the foredunes along the Central Coast from Ventura to San Luis Obispo counties. Recreational use of sand dunes and displacement by non-native species have contributed to the decline of this species. Dunedelion is found in most of the foredune habitats in the Guadalupe oil field and occasionally occurs in some of the adjacent dune scrub habitats.

### Wildlife

Western spadefoot toad (*Scaphiopus hammondi*)

Federal: Unlisted  
State: Species of Special Concern

This species is most often found in temporary pools in grassland habitats or permanent waters without predatory fish. It is known from both San Luis and Santa Barbara Counties and has been found in the Guadalupe oil field. It breeds from January to May.

Southwestern pond turtle (*Clemmys marmorata pallida*)

Federal: Unlisted  
State: Species of Special Concern

The southwestern pond turtle uses a wide range of permanent and ephemeral aquatic environments. It prefers quiet waters in lakes, ponds, rivers and low-flowing streams that have aquatic vegetation along with protected basking sites. The survival of local populations depends on access to undisturbed upland habitats in which individuals can overwinter, construct nest chambers, and lay eggs (eggs are laid between May and July). Populations of this turtle have decreased in central and southern California due mainly to habitat alteration and introduction of predatory fishes. Two large male adult turtles were found on the Guadalupe oil field in 1996.

California horned lizard (*Phrynosoma coronatum frontale*)

Federal: Unlisted  
State: Species of Special Concern

California horned lizards are typically associated with sandy or gravelly substrates in a variety of arid and semi-arid scrub habitats including coastal dune scrub, chaparral, sandy washes and open woodland habitats. Essential elements of their preferred habitat include loose, fine soils, an abundance of ants or other insects, and open areas with a limited overstory for basking and low but relatively dense shrubs for refuge. During the winter, horned lizards are found underground in small mammal burrows, or in the soil under objects such as logs or rocks. They are active during daylight hours from April through September. Eggs are laid May through June, and hatching occurs July through September. This lizard has been known to occur in the Guadalupe oil field in the foredune and backdune habitats and possibly occurs in disturbed habitats along roadways or at the edges of asphalt pads.

Silvery legless lizard (*Anniella pulchra pulchra*)

Federal: Unlisted  
State: Species of Special Concern

The silvery legless lizard occurs in a wide variety of habitats west of the California deserts. In the Guadalupe oil field, this species can be found in the coastal dune scrub and riparian woodlands with relatively loose sandy soil. This species burrows into the loose soil under shrubs or trees and comes up near the soil surface during spring to feed and breed. They may emerge on the surface at dusk or at night. They bear live young from September through November. During the cold and hot and dry seasons the lizard remains burrowed deep in the soil.

Two-striped garter snake (*Thamnophis hammondi*)

Federal: Unlisted  
State: Species of Special Concern

This aquatic species of snake was historically widely distributed along streams and rivers throughout central and southern California. The species has disappeared in much of its range due to habitat alteration and introduction of predatory fishes and bullfrogs, which eat young snakes. These snakes are usually active between March and September, with peak activity occurring in June. They are often active at dusk or at night. Habitat for this species includes perennial and intermittent streams with fairly rocky beds and bordered by willow thickets or other dense emergent vegetation. This species was observed in the Guadalupe oil field along intermittently flooded habitat, freshwater marshes, along the Santa Maria River, and in the river estuary.

White-faced ibis (*Plegadis chihi*)

Federal: Unlisted  
State: Species of Special Concern

This species is a rare fall transient in the area. There have been 5 recent spring records for Santa Barbara County and 8 for San Luis Obispo County, and a few summer reports.

Fulvous whistling-duck (*Dendrosyga bicolor*)

Federal: Unlisted  
State: Species of Special Concern

During the first half of this century this species was a rare but regular migrant through coastal Santa Barbara County. Birds seen since then are suspected to be escapees from captivity.

Harlequin duck (*Histrionicus histrionicus*)

Federal: Unlisted  
State: Species of Special Concern

There are seven records for this species in Santa Barbara County, all of which were either in south county or the Vandenberg/Santa Ynez River area. In San Luis Obispo County all records are for the northern part of the county along rocky shoreline.

Tricolored blackbird (*Agelaius tricolor*)

Federal: Unlisted  
State: Species of Special Concern

These birds are semi-nomadic, and may vary their nesting locations from year to year. Although they still breed in several areas in eastern San Luis Obispo County, they are rare and irregular along the coast, and are not known to have nested on or near the project area.

Double-crested cormorant (*Phalacrocorax auritus*)

Federal: Unlisted  
State: Species of Special Concern, rookery sites only

Double-crested cormorants are fish-eating birds found in both fresh and salt water. This species occurs in low numbers in the Santa Maria River mouth lagoon in winter.

White-tailed kite (*Elanus leucurus*)

Federal: Unlisted  
State: Fully Protected

White-tailed hunt small rodents in meadows, roosting and nesting in trees bordering good foraging habitat. This species has displayed cyclical population fluctuations in this century. The beginning of an upswing may have occurred in 1993. Although this species is relatively rare along the coast, kites were seen on the Guadalupe oil field during 1994 and 1995 surveys.

Cooper's hawk (*Accipiter cooperii*)

Federal: Unlisted  
State: Species of Special Concern

Cooper's hawks are year-round residents, and nest in small numbers in riparian and oak woodland habitats in the area. Small to medium sized birds caught on the wing are their primary prey. Probable nesting sites occur sporadically along the Santa Maria River in suitable habitat.

Northern harrier (*Circus cyaneus*)

Federal: Unlisted  
State: Species of Special Concern

Northern harriers inhabit marshes and meadows where they feed on small mammals. This species has been seen foraging on the Guadalupe oil field and at the river mouth.

Sharp-shinned hawk (*Accipiter striatus*)

Federal: Unlisted  
State: Species of Special Concern

Sharp-shinned hawks are uncommon to fairly common migrants and winter visitors within the project area. Foraging habitat includes heavily wooded areas and semi-open areas. In winter, this species can be expected in wooded areas surrounding the Guadalupe oil field and along the Santa Maria River estuary and lagoon.

Golden eagle (*Aquila chrysaetos*)

Federal: Unlisted  
State: Species of Special Concern

In winter, golden eagles inhabit a variety of habitats, such as grasslands, oak woodland, deserts and forests, and may be found virtually anywhere in the Guadalupe oil field in very small numbers. They have been regularly observed in small numbers near the Santa Maria River mouth area but are not known to nest in the area.

Merlin (*Falco columbarius*)

Federal: Unlisted  
State: Species of Special Concern

Merlins have been seen repeatedly in the Guadalupe oil field, perching on low vegetation in the dunes or foraging for prey virtually anywhere in the area. One or two merlins probably occur in the area every winter (September to April).

Long-eared owl (*Asio otus*)

Federal: Unlisted  
State: Species of Special Concern

Long-eared owl population levels have declined in Santa Barbara County since the first half of the century, probably due to loss of habitat. They require densely wooded riparian areas. This species has become extremely rare in San Luis Obispo County; breeding records are all from the interior of the county.

Short-eared owl (*Asio flammeus*)

Federal: Unlisted  
State: Species of Special Concern

This species is a very rare transient and winter visitor along the coast, with probably fewer than 10 individuals per year along the entire San Luis Obispo County coastline and fewer still along the north coast of Santa Barbara County. The Santa Maria River mouth was an area regularly populated in winter by this species. The only recent record near the project site is from 1980.

Long-billed curlew (*Numerius americanus*)

Federal: Unlisted  
State: Species of Special Concern

This large shorebird forages on invertebrates found in wet sand near the water's edge. This species is a fairly common transient and winter visitor, with a few non-breeding birds remaining during the summer. This bird occurs regularly along the coast only in a few places, the Santa Maria River mouth being one.

California gull (*Larus californicus*)

Federal: Unlisted  
State: Species of Special Concern

California gulls are common throughout San Luis and Santa Barbara Counties and at the mouth of the Santa Maria River during non-breeding seasons. Up to 700 individuals of this species were found at the river mouth in previous years.

Elegant tern (*Sterna elegans*)

Federal: Unlisted  
State: Species of Special Concern

This species is a post-breeding visitor (usually June through October) at the mouth of the Santa Maria River.

California horned lark (*Eremophila alpestris actia*)

Federal: Unlisted  
State: Species of Special Concern

This subspecies of the horned lark has now declined in many areas in Santa Barbara County. It still breeds along the coast, particularly in the dunes from the Santa Maria River south to Vandenberg Air Force Base. It appears to be somewhat more numerous in San Luis Obispo County.

Yellow warbler (*Dendroica petechia*)

Federal: Unlisted  
State: Species of Special Concern

This species may breed in or near the Guadalupe oil field in suitable willow riparian habitat. It is considered fairly common along the Santa Maria River, although the river mouth is not known as a coastal breeding site.

Yellow-breasted chat (*Icteria virens*)

Federal: Unlisted  
State: Species of Special Concern

Chats nest in dense willow riparian habitat. The willow riparian habitat along the Santa Maria River is the most likely habitat on the Guadalupe oil field for this species, but is not extensive enough to support breeding for this bird. It is expected only as a brief transient in the project area.

**UNOCAL**  
**Former Guadalupe Oil Field**  
**Sheet Pile Wall Monitoring Program**  
**Revised 8/20/98**

The original sheet pile monitoring program, submitted on January 15, 1997 with the follow-up regular Coastal Development Permit E97-1, (copy attached) will be revised as summarized below.

**ELEMENTS**

1. Sheet Pile Wall and groundwater Monitoring
  - a. Daily visual inspections by field personnel for general status.
  - b. Quarterly surveys of any exposed sheet pile to determine horizontal and vertical deflection from baseline (unless river is in front of sheet pile, then monthly).
  - c. Quarterly groundwater elevation measurements in designated monitoring wells upgradient of the wall and of any surface water present near the wall to determine differential height.
2. Sandspit, Shoreline, and Beach Profile Monitoring
  - a. Daily visual inspections by field personnel for general status.
  - b. Quarterly surveys of the area ocean ward of the sheet pile wall, (unless river is in front of sheet pile, then monthly) using the same methods employed for all past surveys.
  - c. Quarterly photographs and formal visual inspections, using the same six photo locations and methods employed for all past photograph and formal visual inspection monitoring (unless river is in front of sheet pile, then monthly).
3. River Bank and Depth Monitoring
  - a. Daily visual inspections by field personnel for general status.
  - b. Quarterly surveys to locate the leading edge of the river/lagoon in relation to the sheet pile wall (unless river is in front of sheet pile, then monthly). If the river reaches the profile monitoring area, it will be delineated during the survey and included in the monitoring report. If it migrates north of the

sheet pile wall, it will be delineated to the outlet. The same methods used for past surveys will be employed.

- c. Monthly measurements from top of sheet pile to the river/lagoon bottom will be taken if the river/lagoon is impinging on the sheet pile wall.

## CONTINGENCIES/ACTION THRESHOLDS AND ALERT MEASURES

The same measures outlined in the original attached monitoring program will be implemented.

## DOCUMENTATION

A monitoring report consistent with past reports will be submitted on a quarterly basis, which will include the following documentation for the described elements:

- 1.b.) A table depicting horizontal and/or vertical changes from the baseline.
- 1.c.) A table with the upgradient groundwater elevations, and, if surface water is present, the surface water elevations and comparison to these groundwater elevations.
- 2.b.) Drawings with the most recent profile surveys along with those obtained over the previous 7 to 12 months.
- 2.c.) A copy of the formal visual inspection report and photographs.
- 3.b.) Depiction of the east river bank (or entire river/lagoon, as applicable) on the profile drawings if the river/lagoon within and/or north of the survey area.

RECORDATION REQUESTED BY:

California Coastal Commission  
631 Howard Street  
San Francisco, California 94105

*Recorded June 11, 1980  
Document No. 23795  
San Luis Obispo County*

When Recorded Mail to:  
Above Address

Attn: Linda Breedan

IRREVOCABLE OFFER TO DEDICATE AN EASEMENT FOR  
HABITAT PROTECTION AND OPEN SPACE

I. WHEREAS, Wells Fargo Bank, N.A., a California corporation, as Trustee of the Andre LeRoy Trust and Eugene Rene LeRoy (hereinafter referred to as the "Owners") are the record owners of real property located in the County of San Luis Obispo, State of California, described in Exhibit A, which is attached hereto and incorporated herein by reference (hereinafter referred to as the "Subject Property"); and

II. WHEREAS, Union Oil Company of California, a corporation (hereinafter referred to as the "Company"), is the lessee and operator of an existing oil and gas field on the Subject Property known as the Guadalupe Oil Field; and

III. WHEREAS, the Company proposes to expand its Guadalupe Oil Field operations over a five-year period to include installation of new wells, redrills, steam generators, and to undertake other development activities on the Subject Property; and

IV. WHEREAS, all of the Subject Property is located within the coastal zone as defined in the California Coastal Act of 1976, Public Resources Code §30000, et seq. (hereinafter referred to as the "Act"); and

V. WHEREAS, the Act requires that any development approved by the California Coastal Commission (hereinafter referred to as the "Commission") through its Regional Commissions must be consistent with and carry out the policies of the Act set forth in Chapter 3 of Division 20 of the Public Resources Code; and

VI. WHEREAS, the South Central Coast Regional Commission (hereinafter referred to as the "Regional Commission") approved a permit for the development generally described in Paragraph III hereof (Permit No. 409-24) on the Subject Property upon satisfaction of the following conditions, among others:

Prior to the issuance of a coastal development permit the applicant shall record an irrevocable offer to dedicate to a public agency or private association either of which is approved by the Regional Commission prior to the acceptance of the offer, the following easements:

1. An easement for habitat protection and preservation or open space, covering the land from the mean high tide line to the B row of wells and including the marsh area (as shown on Exhibit IV as line 1).

2. An easement for limited public access covering the land from the mean high tide line inland to the first row of petroleum production wells (shown as line 2 on Exhibit IV). Said limited public access shall be controlled and restricted to walking and hiking in small organized groups. No motorized or wheeled vehicles other than those necessary to the accepting agency's maintenance and operation of the easement shall be permitted. Steps shall be taken by the public agency or private association accepting the dedication to prevent trespass inland from this easement boundary.

The public agency or private association accepting the offer of dedication shall assume the maintenance of the dedicated land, shall assume all legal liability arising from or associated with use of the dedicated land and shall agree to police the dedicated land to ensure compliance with the conditions of the easements.

The above described easements shall not in any way limit or affect the rights of the landowner to continue all existing grazing and agricultural uses at their present levels on the dedicated land and shall not limit or affect Union Oil's or any other lessee's right to continue the existing operations and uses already permitted or permitted under this permit.

The agency or association accepting this offer or dedication shall submit a plan developed in consultation with the applicants for use of the area consistent with habitat protection and applicants' operations, including access limited to authorized educational and scientific groups and persons, for review and approval by the Executive Director. In case of irreconcilable differences, the habitat protection plan shall be submitted to the Regional or State Coastal Commission for resolution. If after approval of the habitat protection plan there are irreconcilable differences between the managing agency or association (accepting the offer of dedication) and the applicant or owner of the Lease area, such difference shall be submitted to the Regional or State Coastal Commission for resolution.

Such easement shall be recorded free of all prior liens or encumbrances except tax liens. The offer shall be made in a manner and form approved in writing by the Executive Director. The offer shall be irrevocable for a period of 21 years running from the date of recordation and shall run with the land in favor of the People of the State of California binding successors and assignees of the applicant or landowner.

VII. WHEREAS, the Regional Commission found that the Subject Property is subject to the habitat protection policies of Section 30240 of the Act because the Subject Property contains significant natural resources of sand dune habitat supporting at least nine types of plant species listed as rare and endangered by the California Native Plant Society as well as numerous wildlife species, some of which may be endangered; and

VIII. WHEREAS, the Regional Commission also found that portions of the Subject Property are marsh or wetlands which are rapidly disappearing in California and which are very unique coastal resources playing a significant role in the coastal ecosystem food chain, and subject therefore to the special protection policies of Sections 30231, et. seq. of the Act; and

IX. WHEREAS, the Regional Commission found that an offer to dedicate an easement for habitat preservation or open space as hereinafter set forth covering that portion of the Subject Property described in Exhibit B attached hereto and incorporated herein by reference was required in order to protect the resource values described above and will

confine the proposed development to a limited geographical area away from the most sensitive habitat areas including the dune habitat and wetlands, will mitigate the adverse impacts on the Subject Property of the proposed development, and will adequately protect the foregoing habitat resources; and

X. WHEREAS, the Regional Commission found that but for the imposition of the condition requiring an offer to dedicate the foregoing easement the development generally described in paragraph III hereof could not have been found to be consistent with the policies of the Act, and a permit for the development could not have been granted;

NOW, THEREFORE, in consideration of the granting of Permit No. 409-24 to the Company and the Owners by the Regional Commission, the Owners hereby offer to dedicate an easement for habitat protection and preservation or open space covering the portion of the Subject Property described in Exhibit B to a local government agency, a public agency of the State of California, or a private association approved by the Regional Commission. Said dedication shall be in the form of the grant of easement and declaration of restrictions attached hereto as Exhibit C and incorporated herein by reference, specifically including the substantive provisions of the declaration of restrictions contained therein.

This offer to dedicate shall be irrevocable for a period of 21 years from the date of recordation of this offer, shall bind the Owners, their heirs, successors and assigns, and shall run with and burden the title to the land described in Exhibit B hereto.

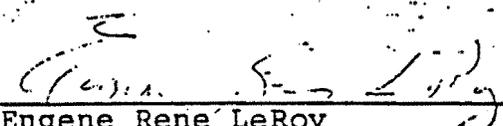
DATED: May 15, 1980

SIGNED: WELLS FARGO BANK, N.A., a California corporation, as Trustee of the Andre LeRoy Trust, Owner

By   
C.E. Broadway  
Assistant Vice President

By   
John L. Flynn  
Assistant Vice President

SIGNED: EUGENE RENE LEROY, Owner

  
Eugene Rene LeRoy

STATE OF CALIFORNIA )  
 ) SS  
COUNTY OF SAN FRANCISCO )

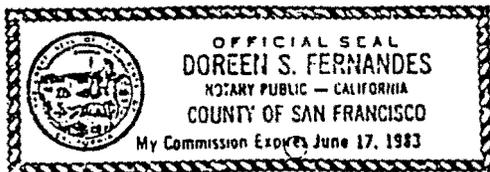
On May 19, 1980, before me, a Notary Public in and for said State personally appeared Eugene Rene LeRoy, known to me to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same.



*Doreen Fernandes*  
Notary Public in and for said  
County and State

STATE OF CALIFORNIA )  
 ) SS  
COUNTY OF SAN FRANCISCO )

On this 19th day of May, 1980, before me, Doreen S. Fernandes, a Notary Public in and for the State of California, personally appeared C.E. Broadway, Assistant Vice President and John L. Flynn, Assistant Vice President, known to me to be the persons who executed the within instrument on behalf of the corporation therein named as the Trustee of the Andre LeRoy Trust and acknowledged to me that such corporation as the Trustee of the Andre LeRoy Trust executed the same.



*Doreen Fernandes*  
Notary Public in and for said  
County and State

DESCRIPTION:

All of that portion of Lot 8, of the resubdivision of Subdivision 162 of the Rancho Guadalupe, lying Southerly of a line drawn due East and West from the most Northwesterly corner of Subdivision No. 76 of the Rancho Guadalupe to the mean high tide line of the Pacific Ocean, Lot 9 and fractional Lot 10 of the resubdivision of Subdivision No. 162, of the Rancho Guadalupe, in the County of San Luis Obispo, State of California, according to the map of J.T. Stratton's Survey filed July 23, 1880, in Book A page 118 of Maps, in the office of the County Recorder of said County.

EXCEPTING any portion of said land, which at any time was tide land, which was not formed by the deposit of alluvion from natural causes and imperceptible degrees..

DESCRIPTION:

An easement for habitat protection and preservation of open space, on that portion of Lot 8 of the Resubdivision of Subdivision No. 162 of the Rancho Guadalupe, lying Southerly of a line drawn due East and West from the most Northwesterly corner of Subdivision No. 76 of the Rancho Guadalupe to the mean high tide line of the Pacific Ocean, Lots 9 and fractional Lot 10 of the Resubdivision of Subdivision No. 162, of the Rancho Guadalupe, in the County of San Luis Obispo, State of California, according to the map of J.T. Stratton's Survey filed July 23, 1880, in book A at page 118 of Maps, in the office of the County Recorder of said County.

EXCEPTING any portion of said land, which at any time was tide land, which was not formed by the deposit of alluvion from natural causes and imperceptible degrees.

Said easement to be located Westerly of the following described line to the mean high tide line of the Pacific Ocean, more particularly described as follows:

Commencing at Monument No. 602, marked R.E. 2928 from which the Southwest corner of Subdivision numbered 162 bears North  $55^{\circ}11'01''$  West, 4973.04 feet; thence South  $88^{\circ}11'01''$  East along the Southerly line of said Subdivision No. 162, 100.00 feet to the true point of beginning; thence North  $34^{\circ}21'23''$  West, 1287.11 feet to the beginning of a curve concave to the Northeast with a radius of 8317.92 feet; thence Northwesterly along the arc of said curve 998.80 feet through a Delta of  $6^{\circ}52'48''$  to end of said curve; thence North  $27^{\circ}28'35''$  West, 1748.48 feet to the beginning of a curve concave to the Northeast with a radius of 592.96 feet; thence Northerly along the arc of said curve through a Delta of  $45^{\circ}23'36''$  to the end of said curve; thence North  $17^{\circ}55'01''$  East, 6827.98 feet to a point in the line drawn due East and West from the most Northwesterly corner of Subdivision No. 76 of the Rancho Guadalupe, to the mean high tide line of the Pacific Ocean, from which the Northwest corner of that portion of Lot 8 of the Resubdivision of Lot 162 of the Rancho Guadalupe, lying Southerly of said East-West line bears North  $88^{\circ}11'01''$  West, 1958.47 feet.

EXCEPT, therefrom any portion lying within the boundaries of Santa Barbara County, California.

GRANT OF EASEMENT FOR HABITAT PROTECTION AND OPEN  
SPACE AND DECLARATION OF RESTRICTIONS

THIS GRANT OF EASEMENT AND DECLARATION OF RESTRICTIONS,  
made this 10th day of June, 1980, by Wells Fargo Bank, N.A.,  
a California corporation, as Trustee of the Andre LeRoy  
Trust and Eugene Rene LeRoy, hereinafter called "Grantors"  
to \_\_\_\_\_ hereinafter called "Grantee".

W I T N E S S E T H:

WHEREAS, the Grantors are the record owners of real  
property located in the County of San Luis Obispo, State of  
California, described in Exhibit 1, which is attached hereto  
and incorporated herein by reference (hereinafter referred  
to as the "Subject Property"); and

WHEREAS, Union Oil Company of California, a California  
corporation (hereinafter referred to as the "Company") is  
the lessee and operator of an existing oil and gas field on  
the Subject Property known as the Guadalupe Oil Field; and

WHEREAS, the Company proposes to expand its Guadalupe  
Oil Field operations over a five-year period to include  
installation of new wells, redrills, steam generators, and  
to undertake other development activities on the Subject  
Property; and

WHEREAS, all of the Subject Property is located within the coastal zone as defined in the California Coastal Act of 1976, Public Resources Code §30000, et seq. (hereinafter referred to as the "Act"); and

WHEREAS, the Act requires that all development approved by the California Coastal Commission (hereinafter referred to as the "Commission") through its Regional Commissions must be consistent with the policies of the Act set forth in Chapter 3 of Division 20 of the Public Resources Code; and

WHEREAS, the South Central Coast Regional Commission (hereinafter referred to as the "Regional Commission") approved a permit for the development generally described in Paragraph III hereof (Permit No. 409-24) on the Subject Property upon satisfaction of the following conditions, among others:

Prior to the issuance of a coastal development permit the applicant shall record an irrevocable offer to dedicate to a public agency or private association either of which is approved by the Regional Commission prior to the acceptance of the offer, the following easements:

1. An easement for habitat protection and preservation or open space, covering the land from the mean high tide line to the B row of wells and including the marsh area (as shown on Exhibit IV as line 1).

2. An easement for limited public access covering the land from the mean high tide line inland to the first row of petroleum production wells (shown as line 2 on Exhibit IV). Said limited public access shall be controlled and restricted to walking and hiking in small organized groups. No motorized or wheeled vehicles other than those necessary to the accepting agency's maintenance and operation of the easement shall be permitted. Steps shall be taken by the public agency or private association accepting the dedication to prevent trespass inland from this easement boundary.

The public agency or private association accepting the offer of dedication shall assume the maintenance of the dedicated land, shall assume all legal liability arising from or associated with use of the dedicated land and shall agree to police the dedicated land to ensure compliance with the conditions of the easements.

The above described easements shall not in any way limit or affect the rights of the landowner to continue all existing grazing and agricultural uses at their present levels on the dedicated land and shall not limit or affect Union Oil's or any other lessee's right to continue the existing operations and uses already permitted or permitted under this permit.

The agency or association accepting this offer or dedication shall submit a plan developed in consultation with the applicants for use of the area consistent with habitat protection and applicants' operations, including access limited to authorized educational and scientific groups and persons, for review and approval by the Executive Director. In case of irreconcilable differences, the habitat protection plan shall be submitted to the Regional or State Coastal Commission for resolution. If after approval of the habitat protection plan there are irreconcilable differences between the managing agency or association (accepting the offer of dedication) and the applicant or owner of the Lease area, such difference shall be submitted to the Regional or State Coastal Commission for resolution.

Such easement shall be recorded free of all prior liens or encumbrances except tax liens. The offer shall be made in a manner and form approved in writing by the Executive Director. The offer shall be irrevocable for a period of 21 years running from the date of recordation and shall run with the land in favor of the People of the State of California binding successors and assignees of the applicant or landowner.

WHEREAS, the Regional Commission found that the Subject Property is subject to the habitat protection policies of Section 30240 of the Act because the Subject Property contains significant natural resources of sand dune habitat supporting at least nine types of plant species listed as rare and endangered by the California Native Plant Society and numerous wildlife species, some of which may be endangered; and

WHEREAS, the Regional Commission also found that portions of the Subject Property are marsh or wetlands which are rapidly disappearing in California and which are very unique coastal resources playing a significant role in the coastal ecosystem food chain, and subject therefore to the special protection policies of sections 30231 et. seq. of the Act; and

WHEREAS, the Regional Commission found that an offer to dedicate an easement for habitat preservation or open space as hereinafter set forth covering that portion of the Subject Property described in Exhibit 2 attached hereto and incorporated herein by reference was required in order to protect the resource values described above and will confine the proposed development to a limited geographical

area away from the most sensitive habitat areas including the dune habitat and wetlands, will mitigate the adverse impacts on the Subject Property of the proposed development, and will adequately protect the foregoing habitat resources; and

WHEREAS, the Regional Commission found that but for the imposition of the condition requiring an offer to dedicate the above-described easement the development generally described in paragraph III hereof could not have been found to be consistent with the policies of the Act, and a permit for the development could not have been granted; and

WHEREAS, it is intended that the restrictions contained herein shall be deemed enforceable restrictions within the meaning of Article XIII, Section 8 of the Constitution of the State of California, and that said restrictions shall be deemed to be enforceable restrictions within the meaning of Articles 1 and 1.5 of Chapter Three, Part 2, Division 1 of the California Revenue and Taxation Code, provided, however, that in no event shall the said restrictions result in an assessed valuation greater than the valuation that would have resulted by calculation in the absence of said restrictions.

NOW, THEREFORE, in consideration of the granting of permit no. 409-24 to the Company and the Grantors by the Regional Commission,, Grantors hereby grant to Grantee an easement in perpetuity for habitat protection and preservation of Open space over the land described in Exhibit 2

attached hereto and incorporated herein by reference, (hereinafter referred to as the "Dedicated Land") subject to the following terms, conditions and restrictions:

1. Use of dedicated land. No development as defined in Public Resources Code Section 30106 shall be allowed on the Dedicated Land, except such coastal dependent oil development as is expressly allowed under permit 409-24. It is anticipated, however, that oil production methods may change over time and amendments or new permits may be allowed with production activities located on the Dedicated Land, provided that the resource and recreation values of the Dedicated Land are recognized and preserved in conjunction with the additional development requiring new permits or amendments.

Grantee shall be given notice of any construction activity by the Grantors or the Company within or adjacent to the Dedicated Land five days in advance of such activity, except for emergency work. The Company shall also submit to the Grantee copies of all reports required by permit 409-24.

In compliance with Condition 13 to permit 409-24 the grant of this easement and declaration of restrictions shall not limit or affect the rights of the Owner or Owners of the Dedicated Land to continue all existing grazing and agricultural uses at their present levels on the Dedicated Land or on other land which may affect the Dedicated Land, and shall not limit or affect the Company or any other lessee's right to continue the existing operations and uses

already permitted or permitted under permit 409-24. The Grantors shall submit to the Grantee a report specifying the existing grazing and agricultural uses of the Dedicated Land. Such uses shall not be intensified beyond the intensity of present use.

The general public shall have no right of access to and no right to use the Dedicated Land except as set forth herein. Educational and scientific groups and persons shall have access to the Dedicated Land in small groups controlled by Grantee, as allowed by the provisions of paragraph 2 hereof.

2. Habitat Protection Plan. Grantee shall submit a plan (hereinafter referred to as the "Habitat Protection Plan") developed in consultation with the Grantors and the Company for use of the Dedicated Land consistent with habitat protection and the Grantor's and Company's operations, including access limited to authorized educational and scientific groups and persons, for review and approval by the executive director of the Regional Commission. Irreconcilable differences concerning the Habitat Protection Plan shall be submitted to the Regional Commission for resolution. The Habitat Protection Plan shall address maintenance of the Dedicated Land, and shall address condition 8 of permit 409-24, provided that satisfaction of condition 8(b) shall be deemed sufficient compliance with condition 8. The Habitat Protection Plan shall also provide for reasonable steps by Grantee to prevent trespass from the Dedicated Land onto the remainder of the Subject Property. ○

3. Right of Entry. Grantee may enter the Dedicated Land through the private road located on the Subject Property. Grantee's right of entry shall be limited to Grantee's employees only, unless prior approval is received from the Company.

4. Taxes and Assessments. The Grantors or Company agree to pay or cause to be paid all real property taxes and assessments levied or assessed against the Dedicated Land.

5. Maintenance. Grantee shall assume the maintenance of the Dedicated Land, except such maintenance as is made necessary by the oil production activities of the Company. The Grantee shall assume all legal liability arising from or associated with public use of the Dedicated Land, and shall indemnify and hold the Grantors and Company harmless from and against all liability, loss, damage, claims, demands and expense arising from such public use. The Grantee shall take reasonable steps to prevent trespass from the Dedicated Land onto the remainder of the Subject Property.

6. Recording of Documents. This grant of easement and declaration of restrictions shall be duly recorded in the office of the Recorder for San Luis Obispo County.

7. Successors In Interest. This grant of easement and declaration of restrictions shall run with the Dedicated Land, and all obligations hereby imposed shall be deemed to be covenants and restrictions running with the Dedicated Land and shall bind any person having at any time any

interest or estate in the Dedicated Land and shall be binding upon and inure to the benefit of all heirs, successors and assigns of the Grantors.

8. Transferability. Grantee or the Legislature of the State of California may transfer all of its interests in this grant of easement and declaration of restrictions to any appropriate agency of the State of California.

IN WITNESS WHEREOF, Grantors have executed this grant of easement and declaration of restrictions on the 10th day of June, 1980.

SIGNED:

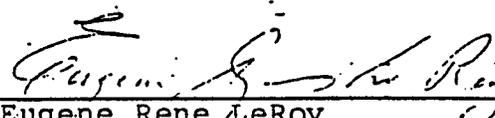
WELLS FARGO BANK, N.A., a California corporation, as Trustee of the Andre LeRoy Trust, Grantor

BY   
ITS: C. E. BROADWAY  
ASSISTANT VICE PRESIDENT

BY   
ITS: C. L. HORSMAN  
REAL PROPERTY OFFICER

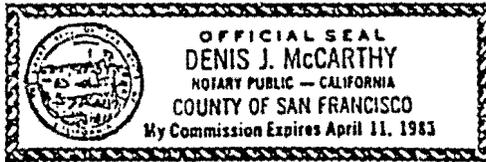
SIGNED:

EUGENE RENE LEROY, Grantor

  
Eugene Rene LeRoy

STATE OF CALIFORNIA )  
 ) SS  
COUNTY OF SAN FRANCISCO )

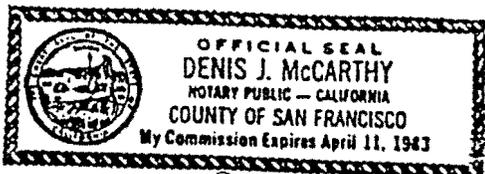
On June 10, 1980, before me, a Notary Public in and for said State personally appeared Eugene Rene LeRoy, known to me to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same.



Denis J. McCarthy  
Notary Public in and for said  
County and State

STATE OF CALIFORNIA )  
 ) SS  
COUNTY OF SAN FRANCISCO )

On this 10th day of June, 1980, before me, DENIS J. MCCARTHY, a Notary Public in and for the State of California, personally appeared C. E. PRODDMAN and C. T. HARRISON, known to me to be the persons who executed the within instrument on behalf of the corporation therein named as the Trustee of the Andre LeRoy Trust and acknowledged to me that such corporation as the Trustee of the Andre LeRoy Trust executed the same.



Denis J. McCarthy  
Notary Public in and for said  
County and State

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CERTIFICATE OF ACCEPTANCE AND CONSENT  
TO RECORDING OF DEED TO \_\_\_\_\_

This is to certify that the interest in real property conveyed by  
Dedication and Deed dated \_\_\_\_\_, 197\_, from \_\_\_\_\_  
to the \_\_\_\_\_ is hereby accepted effective \_\_\_\_\_,  
197\_, by the undersigned officer or agent on behalf of said \_\_\_\_\_  
pursuant to authority conferred by resolution of said \_\_\_\_\_  
adopted on \_\_\_\_\_, 197\_, and the Grantee consents to recordation there-  
of by its duly authorized officer.

DATED: \_\_\_\_\_, 197\_.

\_\_\_\_\_  
By: \_\_\_\_\_

STATE OF CALIFORNIA            )  
  ) ss.  
COUNTY OF \_\_\_\_\_)

On \_\_\_\_\_, 197\_, before the undersigned, a  
Notary Public in and for the said State, personally appeared \_\_\_\_\_,  
known to me to be the person who executed the within instrument and acknow-  
ledged to me that he executed the same. WITNESS my hand and official seal.

\_\_\_\_\_  
Notary Public in and for said County  
and State

DESCRIPTION:

All of that portion of Lot 8, of the resubdivision of Subdivision 162 of the Rancho Guadalupe, lying Southerly of a line drawn due East and West from the most Northwesterly corner of Subdivision No. 76 of the Rancho Guadalupe to the mean high tide line of the Pacific Ocean, Lot 9 and fractional Lot 10 of the resubdivision of Subdivision No. 162, of the Rancho Guadalupe, in the County of San Luis Obispo, State of California, according to the map of J.T. Stratton's Survey filed July 23, 1880, in Book A page 118 of Maps, in the office of the County Recorder of said County.

EXCEPTING any portion of said land, which at any time was tide land, which was not formed by the deposit of alluvion from natural causes and imperceptible degrees.

DESCRIPTION:

An easement for habitat protection and preservation of open space, on that portion of Lot 8 of the Resubdivision of Subdivision No. 162 of the Rancho Guadalupe, lying Southerly of a line drawn due East and West from the most Northwesterly corner of Subdivision No. 76 of the Rancho Guadalupe to the mean high tide line of the Pacific Ocean, Lots 9 and fractional Lot 10 of the Resubdivision of Subdivision No. 162, of the Rancho Guadalupe, in the County of San Luis Obispo, State of California, according to the map of J.T. Stratton's Survey filed July 23, 1880, in book A at page 118 of Maps, in the office of the County Recorder of said County.

EXCEPTING any portion of said land, which at any time was tide land, which was not formed by the deposit of alluvion from natural causes and imperceptible degrees.

Said easement to be located Westerly of the following described line to the mean high tide line of the Pacific Ocean, more particularly described as follows:

Commencing at Monument No. 602, marked R.E. 2928 from which the Southwest corner of Subdivision numbered 162 bears North  $55^{\circ}11'01''$  West, 4973.04 feet; thence South  $88^{\circ}11'01''$  East along the Southerly line of said Subdivision No. 162, 100.00 feet to the true point of beginning; thence North  $34^{\circ}21'23''$  West, 1287.11 feet to the beginning of a curve concave to the Northeast with a radius of 8317.92 feet; thence Northwesterly along the arc of said curve 998.80 feet through a Delta of  $6^{\circ}52'48''$  to end of said curve; thence North  $27^{\circ}28'35''$  West, 1748.48 feet to the beginning of a curve concave to the Northeast with a radius of 592.96 feet; thence Northerly along the arc of said curve through a Delta of  $45^{\circ}23'36''$  to the end of said curve; thence North  $17^{\circ}55'01''$  East, 6827.98 feet to a point in the line drawn due East and West from the most Northwesterly corner of Subdivision No. 76 of the Rancho Guadalupe, to the mean high tide line of the Pacific Ocean, from which the Northwest corner of that portion of Lot 8 of the Resubdivision of Lot 162 of the Rancho Guadalupe, lying Southerly of said East-West line bears North  $88^{\circ}11'01''$  West, 1958.47 feet.

EXCEPT, therefrom any portion lying within the boundaries of Santa Barbara County, California.

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CERTIFICATE OF ACCEPTANCE AND CONSENT  
TO RECORDING OF DEED TO \_\_\_\_\_

This is to certify that the interest in real property conveyed by  
Dedication and Deed dated \_\_\_\_\_, 198\_, from \_\_\_\_\_  
to the \_\_\_\_\_ is hereby accepted effective \_\_\_\_\_,  
198\_, by the undersigned officer or agent on behalf of said \_\_\_\_\_  
pursuant to authority conferred by resolution of said \_\_\_\_\_  
adopted on \_\_\_\_\_, 198\_, and the Grantee consents to recordation  
thereof by its duly authorized officer.

DATED: \_\_\_\_\_, 198\_.

By: \_\_\_\_\_

STATE OF CALIFORNIA            )  
  ) ss.  
COUNTY OF \_\_\_\_\_ )

On \_\_\_\_\_, 198\_, before the undersigned, a  
Notary Public in and for the said State, personally appeared \_\_\_\_\_,  
known to me to be the person who executed the within instrument and  
acknowledged to me that he executed the same. WITNESS my hand and  
official seal.

\_\_\_\_\_  
Notary Public in and for said County  
and State

SUBORDINATION AGREEMENT

THE undersigned, as Lessee under an Oil and Gas Lease dated December 1, 1950, and recorded March 24, 1951, in Book 602, Page 462, Official Records in the Office of the County Recorder of the San Luis Obispo County, California, encumbering the real property described in Exhibit A to this document, hereby acknowledges the Offer to Dedicate Easements for Public Access and Habitat Protection in this document and does hereby subordinate the interests of its Oil and Gas Lease thereto and to interests created upon any acceptance of said Offer.

Dated April 1, 1980

UNION OIL COMPANY OF CALIFORNIA

By: Herbert S. Harry  
HERBERT S. HARRY  
Its Attorney in fact

STATE OF CALIFORNIA ]  
County of Los Angeles ]

On this 1st day of April, A.D.,  
19 80, before me, P. T. BURGDORF,  
a Notary Public in and for said County and State,

personally appeared HERBERT S. HARRY  
known to me to be the person whose name is subscribed  
to the within Instrument, as the Attorney-in-Fact of  
UNION OIL COMPANY OF CALIFORNIA, and acknowledged to me  
that he subscribed the name of UNION OIL COMPANY OF  
CALIFORNIA thereto as principal and his own name as  
Attorney-in-Fact.

IN WITNESS WHEREOF, I have hereunto set my hand and  
affixed my official seal the day and year in this  
certificate first above written.

P. T. Burgdorf  
Notary Public in and for said  
County and State

My commission expires \_\_\_\_\_

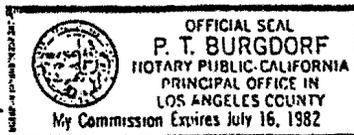


EXHIBIT "A"

PARCEL I:

Beginning at the southwest corner of Subdivision 162 of the Rancho Guadalupe within the boundaries of San Luis Obispo County, State of California, according to Map filed for record July 23, 1880, in the office of the County Recorder of said San Luis Obispo County; thence south 57 degrees east 4973.04 feet to a point; thence east 1980 feet to a point; thence north 48 degrees east 3762 feet to a point; thence north 58 degrees 58 minutes 20 seconds east 1485.11 feet to a point; thence north 58 degrees 58 minutes 20 seconds east 580.91 feet to a point; thence south 83 degrees 03 minutes 20 seconds east 2640 feet to a point; thence north 28 degrees 45 minutes 10 seconds east 1745.22 feet to a point; thence north 41 degrees east 4183.74 feet to a point; thence north 20 degrees east 2626.14 feet to a point; thence west 15,821.63 feet to a point; and thence southerly along a line marking the mean high tide position of the Pacific Ocean to the point of beginning, which said line in general bears south 14 degrees 31 minutes 50 seconds west, and containing 2876.39 acres, more or less.

PARCEL II:

Those certain Subdivisions or portions thereof as hereinafter described and being a part of the Rancho Guadalupe as said Rancho was subdivided and delineated on Map entitled "Map of the Subdivision of Rancho Guadalupe by J.T. Stratton, November 1871", which map was recorded March 8, 1880 in the Recorder's office of San Luis Obispo County, California, and recorded in Book B, Page 422 of Miscellaneous Records, Santa Barbara County, California.

- A. Subdivision 153 of said Rancho, containing 233.92 acres, more or less.
- B. Subdivision 154 of said Rancho EXCEPTING THEREFROM the following described parcel: Commencing on the southerly line of the road along the northwesterly line of Subdivision 154, 150 lengths south 47 degrees 15 minutes west of the post marked "S367"; thence along the southerly line of said road south 47 degrees 15 minutes west 20.50 chains to an angle of said road with post marked "S356"; thence along the southerly line of said Subdivision 154 south 65 degrees 15 minutes east 67.47 chains thence along the southeasterly line of said Subdivision north 51 degrees 45 minutes east 23.09 chains; thence north 42 degrees 45 minutes west 28.94 chains to a point 396 lengths distant south 42 degrees 45 minutes east from a post marked "S369" thence running parallel with the general line of the bluff bank of the Santa Maria River and distant about 1 chain southerly thereof south 86 degrees 45 minutes west 36.62 chains; thence north 42 degrees 45 minutes west 11.72 chains to the point of beginning, and containing 66.02 acres, more or less.

1 This is to certify that the offer of dedication set forth above dated  
2 May 15, 1980, and signed by Wells Fargo Bank  
3 and Eugene Leroy, owner(s), is hereby acknowledged  
4 by the undersigned officer on behalf of the California Coastal Commission  
5 pursuant to authority conferred by the California Coastal Commission when  
6 it granted Coastal Development Permit No. 409-24 on 1-4-80  
7 and the California Coastal Commission consents to recordation thereof by  
8 its duty authorized officer.

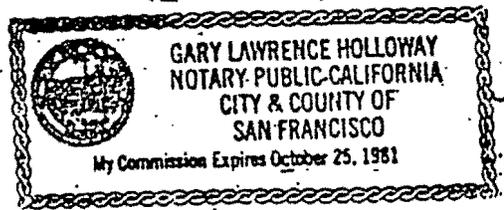
9 Dated: June 11, 1980

10 Linda J. Breeden  
11 Staff Counsel  
12 California Coastal Commission

13 STATE OF CALIFORNIA  
14 COUNTY OF SAN FRANCISCO

15 On 11 June 1980, before the undersigned, a Notary Public  
16 in and for said State, personally appeared Linda L. Breeden known to me  
17 to be the person who executed the within instrument on behalf of said  
18 California Coastal Commission

19 Witness my hand and official seal.



24 Gary Lawrence Holloway  
25 Notary Public in and for said County  
26 and State  
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RECORDATION REQUESTED BY:

California Coastal Commission  
631 Howard Street  
San Francisco, California 94105

*Recorded June 11, 1980  
Document No. 23796  
San Luis Obispo County*

When Recorded Mail to:  
Above Address

Attn: Linda Breedan

IRREVOCABLE OFFER TO DEDICATE AN EASEMENT FOR  
LIMITED PUBLIC ACCESS

I. WHEREAS, Wells Fargo Bank, N.A., a California corporation, as Trustee of the Andre LeRoy Trust and Eugene Rene LeRoy (hereinafter referred to as the "Owners") are the record owners of real property located in the County of San Luis Obispo, State of California, described in Exhibit A, which is attached hereto and incorporated herein by reference (hereinafter referred to as the "Subject Property"); and

II. WHEREAS, Union Oil Company of California, a corporation (hereinafter referred to as the "Company"), is the lessee and operator of an existing oil and gas field on the Subject Property known as the Guadalupe Oil Field; and

III. WHEREAS, the Company proposes to expand its Guadalupe Oil Field operations over a five-year period to include installation of new wells, redrills, steam generators, and to undertake other development activities on the Subject Property; and

IV. WHEREAS, all of the Subject Property is located within the coastal zone as defined in the California Coastal Act of 1976, Public Resources Code §30000, et seq. (hereinafter referred to as the "Act"); and

V. WHEREAS, the Act requires that any development approved by the California Coastal Commission (hereinafter referred to as the "Commission") through its Regional Commissions must be consistent with and carry out the policies of the Act set forth in Chapter 3 of Division 20 of the Public Resources Code; and

VI. WHEREAS, the South Central Coast Regional Commission (hereinafter referred to as the "Regional Commission") approved a permit for the development generally described in Paragraph III hereof (Permit No. 409-24) on the Subject Property upon satisfaction of the following conditions, among others:

Prior to the issuance of a coastal development permit the applicant shall record an irrevocable offer to dedicate to a public agency or private association either of which is approved by the Regional Commission prior to the acceptance of the offer, the following easements:

1. An easement for habitat protection and preservation or open space, covering the land from the mean high tide line to the B row of wells and including the marsh area (as shown on Exhibit IV as line 1).

2. An easement for limited public access covering the land from the mean high tide line inland to the first row of petroleum production wells (shown as line 2 on Exhibit IV). Said limited public access shall be controlled and restricted to walking and hiking in small organized groups. No motorized or wheeled vehicles other than those necessary to the accepting agency's maintenance and operation of the easement shall be permitted. Steps shall be taken by the public agency or private association accepting the dedication to prevent trespass inland from this easement boundary.

The public agency or private association accepting the offer of dedication shall assume the maintenance of the dedicated land, shall assume all legal liability arising from or associated with use of the dedicated land and shall agree to police the dedicated land to ensure compliance with the conditions of the easements.

The above described easements shall not in any way limit or affect the rights of the landowner to continue all existing grazing and agricultural uses at their present levels on the dedicated land and shall not limit or affect Union Oil's or any other lessee's right to continue the existing operations and uses already permitted or permitted under this permit.

The agency or association accepting this offer or dedication shall submit a plan developed in consultation with the applicants for use of the area consistent with habitat protection and applicants' operations, including access limited to authorized educational and scientific groups and persons, for review and approval by the Executive Director. In case of irreconcilable differences, the habitat protection plan shall be submitted to the Regional or State Coastal Commission for resolution. If after approval of the habitat protection plan there are irreconcilable differences between the managing agency or association (accepting the offer of dedication) and the applicant or owner of the Lease area, such difference shall be submitted to the Regional or State Coastal Commission for resolution.

Such easement shall be recorded free of all prior liens or encumbrances except tax liens. The offer shall be made in a manner and form approved in writing by the Executive Director. The offer shall be irrevocable for a period of 21 years running from the date of recordation and shall run with the land in favor of the People of the State of California binding successors and assignees of the applicant or landowner.

VII. WHEREAS, the Regional Commission found that the Subject Property is subject to the habitat protection policies of Section 30240 of the Act because the Subject Property contains significant natural resources of sand dune habitat supporting at least nine types of plant species listed as rare and endangered by the California Native Plant Society as well as numerous wildlife species, some of which may be endangered; and

VIII. WHEREAS, the Regional Commission also found that portions of the Subject Property are marsh or wetlands which are rapidly disappearing in California and which are very unique coastal resources playing a significant role in the coastal ecosystem food chain, and subject therefore to the special protection policies of sections 30231 et. seq. of the Act; and

IX. WHEREAS, the Regional Commission found that the Subject Property is located between the sea and the first public road and is subject to the public access policies of Chapter 3 of the Act detailed in Sections 30210 through 30214; and

X. WHEREAS, the Regional Commission found in implementing the public access policies of the Act that public access to the shoreline and along the coast is required in new development projects located between the sea and the first public road, unless it would be inconsistent with public safety or the protection of fragile coastal resources; and

XI. WHEREAS, the Regional Commission found that vertical public access to the shoreline through the locked private road or otherwise on the Subject Property is not required because it would be inconsistent with the habitat protection policies of the Act and with public safety needs due to hazards associated with oil field operations; and

XII. WHEREAS, the Regional Commission found that lateral public access across that portion of the Subject Property described in Exhibit B attached hereto and incorporated herein by reference was appropriate as the area is accessible from the county park located at the Santa Maria River mouth along the shoreline and across that portion of the Subject Property described in Exhibit B attached hereto extending generally to the first line of oil wells and that therefore lateral access is required for pass and repass and limited dune study purposes in the area; and

XIII. WHEREAS, the Regional Commission found that an offer to dedicate an easement for limited public access as hereinafter set forth balances and implements both the public access requirements and habitat protection policies of the Act; and

XIV. WHEREAS, the Regional Commission found that nothing in permit 409-24 and nothing herein shall be construed to constitute an assertion of or establishment of or waiver of or a determination of any kind regarding any issue of public prescriptive rights which may or may not exist in the Subject Property or any part thereof; and

XV. WHEREAS, the Regional Commission found that but for the imposition of the condition requiring an offer to dedicate the above-described easement for limited public access for pass and repass and limited dune study purposes the development generally described in paragraph III hereof could not have been found to be consistent with the Act, and the Permit could not have been granted;

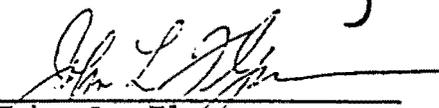
NOW, THEREFORE, in consideration of the granting of Permit No. 409-24 to the Company and the Owners by the Regional Commission, the Owners hereby offer to dedicate an easement for limited public access for pass and repass and limited dune study purposes covering the portion of the Subject Property described in Exhibit B to a local government agency, a public agency of the State of California, or a private association approved by the Regional Commission. Said dedication and conveyance shall be in the form of the grant of an easement and declaration of restrictions attached hereto as Exhibit C and incorporated herein by reference, specifically including the substantive provisions of the declaration of restrictions contained therein.

This offer to dedicate shall be irrevocable for a period of 21 years from the date of recordation of this offer, shall bind the Owners, their heirs, successors and assigns, and shall run with and burden the title to the land described in Exhibit B hereto.

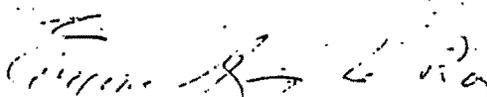
DATED: May 15, 1980

SIGNED: WELLS FARGO BANK, N.A., a California corporation as Trustee of the Andre LeRoy Trust, Owner

By   
C.E. Broadway,  
Assistant Vice President

By   
John L. Flynn,  
Assistant Vice President

SIGNED: EUGENE RENE LEROY, Owner

  
Eugene Rene LeRoy

DESCRIPTION:

All of that portion of Lot 8, of the resubdivision of Subdivision 162 of the Rancho Guadalupe, lying Southerly of a line drawn due East and West from the most Northwesterly corner of Subdivision No. 76 of the Rancho Guadalupe to the mean high tide line of the Pacific Ocean, Lot 9 and fractional Lot 10 of the resubdivision of Subdivision No. 162, of the Rancho Guadalupe, in the County of San Luis Obispo, State of California, according to the map of J.T. Stratton's Survey filed July 23, 1880, in Book A page 118 of Maps, in the office of the County Recorder of said County.

EXCEPTING any portion of said land, which at any time was tide land, which was not formed by the deposit of alluvion from natural causes and imperceptible degrees.

DESCRIPTION:

An easement for limited public access on that portion of Lot 8 of the Resubdivision of Subdivision No. 162 of the Rancho Guadalupe, lying Southerly of a line drawn due East and West from the Most Northwesterly corner of Subdivision No. 76 of the Rancho Guadalupe to the mean high tide line of the Pacific Ocean, Lots 9 and fractional Lot 10 of the Resubdivision of Subdivision No. 162, of the Rancho Guadalupe, in the County of San Luis Obispo, State of California, according to the map of J.T. Stratton's Survey filed July 23, 1880, in book A at page 118 of Maps, in the office of the County Recorder of said County.

EXCEPTING any portion of said land, which at any time was tide land, which was not formed by the deposit of alluvion from natural causes and imperceptible degrees.

Commencing at the Southwest corner of fractional Lot 10 of Resubdivision of Subdivision No. 162 of the Rancho Guadalupe; thence South  $55^{\circ}11'01''$  East, 316.98 feet along the Southwesterly line of said lot to the true point of beginning; thence North  $17^{\circ}49'39''$  East, 8200.57 feet to a point in the line drawn due East and West from the most Northwest corner of Subdivision No. 76 of the Rancho Guadalupe to the mean high tide line of the Pacific Ocean, from which the Northwest corner of that portion of Lot 8 of the Resubdivision of Subdivision No. 162 of the Rancho Guadalupe lying Southerly of said East-West line bears North  $88^{\circ}11'01''$  West, 529.39 feet.

EXCEPT therefrom any portion lying within the boundaries of Santa Barbara County, California.

WHEREAS, all of the Subject Property is located within the coastal zone as defined in the California Coastal Act of 1976, Public Resources Code §30000, et seq. (hereinafter referred to as the "Act"); and

WHEREAS, the Act requires that any development approved by the California Coastal Commission (hereinafter referred to as the "Commission") through its Regional Commissions must be consistent with and carry out the policies of the Act set forth in Chapter 3 of Division 20 of the Public Resources Code; and

WHEREAS, the South Central Coast Regional Commission (hereinafter referred to as the "Regional Commission") approved a permit for the development generally described in Paragraph III hereof (Permit No. 409-24) on the Subject Property upon satisfaction of the following conditions, among others:

Prior to the issuance of a coastal development permit the applicant shall record an irrevocable offer to dedicate to a public agency or private association either of which is approved by the Regional Commission prior to the acceptance of the offer, the following easements:

1. An easement for habitat protection and preservation or open space, covering the land from the mean high tide line to the B row of wells and including the marsh area (as shown on Exhibit IV as line 1).

GRANT OF EASEMENT FOR LIMITED PUBLIC ACCESS  
AND DECLARATION OF RESTRICTIONS

THIS GRANT OF EASEMENT AND DECLARATION OF RESTRICTIONS,  
made this 10th day of June, 1980 by Wells Fargo Bank, N.A.,  
a California corporation, as Trustee of the Andre LeRoy  
Trust and Eugene Rene LeRoy hereinafter called "Grantors" to  
\_\_\_\_\_ hereinafter called "Grantee".

W I T N E S S E T H:

WHEREAS, the Grantors are the record owners of real  
property located in the County of San Luis Obispo, State of  
California, described in Exhibit 1, which is attached hereto  
and incorporated herein by reference (hereinafter referred  
to as the "Subject Property"); and

WHEREAS, Union Oil Company of California, a corporation  
(hereinafter referred to as the "Company"), is the lessee  
and operator of an existing oil and gas field on the Subject  
Property known as the Guadalupe Oil Field; and

WHEREAS, the Company proposes to expand its Guadalupe  
Oil Field operations over a five-year period to include  
installation of new wells, redrills, steam generators, and  
to undertake other development activities on the Subject  
Property; and

Such easement shall be recorded free of all prior liens or encumbrances except tax liens. The offer shall be made in a manner and form approved in writing by the Executive Director. The offer shall be irrevocable for a period of 21 years running from the date of recordation and shall run with the land in favor of the People of the State of California binding successors and assignees of the applicant or landowner.

WHEREAS, the Regional Commission found that the Subject Property is subject to the habitat protection policies of Section 30240 of the Act because the Subject Property contains significant natural resources of sand dune habitat supporting at least nine types of plant species listed as rare and endangered by the California Native Plant Society as well as numerous wildlife species, some of which may be endangered; and

WHEREAS, the Regional Commission also found that portions of the Subject Property are marsh or wetlands which are rapidly disappearing in California and which are very unique coastal resources playing a significant role in the coastal ecosystem food chain, and subject therefore to the special protection policies of sections 30231 et. seq. of the Act; and

WHEREAS, the Regional Commission found that the Subject Property is located between the sea and the first public road and is subject to the public access policies of Chapter 3 of the Act detailed in Sections 30210 through 30214; and

WHEREAS, the Regional Commission found in implementing the public access policies of the Act that public access to the shoreline and along the coast is required in new development projects located between the sea and the first public road, unless it would be inconsistent with public safety or the protection of fragile coastal resources; and

WHEREAS, the Regional Commission found that vertical public access to the shoreline through the locked private road or otherwise on the Subject Property is not required because it would be inconsistent with the habitat protection policies of the Act and with public safety needs due to hazards associated with oil field operations; and

WHEREAS, the Regional Commission found that lateral public access across that portion of the Subject Property described in Exhibit 2 attached hereto and incorporated herein by reference are appropriate as the area is accessible from the county park located at the Santa Maria River mouth along the shoreline and across that portion of the Subject Property described in Exhibit 2 attached hereto extending generally to the first line of oil wells and that therefore lateral access is required for pass and repass and limited dune study purposes in the area; and

WHEREAS, the Regional Commission found that an offer to dedicate an easement for limited public access as hereinafter set forth balances and implements both the public access requirements and habitat protection policies of the Act; and

WHEREAS, the Regional Commission found that nothing in permit 409-24 and nothing herein shall be construed to constitute an assertion of or establishment of or waiver of or a determination of any kind regarding any issue of public prescriptive rights which may or may not exist in the Subject Property or any part thereof; and

WHEREAS, the Regional Commission found that but for the imposition of the condition requiring an offer to dedicate the above-described easement for limited public access for pass and repass and limited dune study purposes the development generally described in paragraph III hereof could not have been found to be consistent with the Act, and the Permit could not have been granted; and

NOW, THEREFORE, in consideration of the granting of Permit No. 409-24 to the Company and the Grantors by the Regional Commission, Grantors hereby grant to Grantee an easement for limited public access for pass and repass and limited dune study purposes across that portion of the Subject Property described in Exhibit 2 attached hereto and incorporated herein by reference (hereinafter referred to as the "Dedicated Land") subject to the following terms, conditions and restrictions:

1. Use of dedicated land. No development as defined in Public Resources Code Section 30106 shall be allowed on the Dedicated Land, except such coastal dependent oil development as is expressly allowed under permit 409-24. It is anticipated, however, that oil production methods may change over time and amendments or new permits may be allowed with production activities located on the Dedicated Land, provided that the resource and recreation values of the Dedicated Land are recognized and preserved in conjunction with the additional development requiring new permits or amendments. The beach area is currently open and unofficially available for public use, subject to a "Notice of Permission to Use Real Property" recorded pursuant to Civil Code §813, by walking along the public tideland from the adjacent county park. The Dedicated Land shall not be officially opened for public use until the Grantee has taken steps to insure that public access is confined to the Dedicated Land. Such steps may include limiting the time of public access to daylight hours, posting signs showing permitted access hours, or limiting public access to the dune area on an appointment basis. Nothing shall be done by either Grantor or Grantee to interfere with or restrict the current unofficial use of the public tideland.

Prior to opening the Dedicated Land to public use, the Grantee shall prepare a public access plan which shall be submitted for approval to the Executive Director of the

Regional Commission. The public access plan shall address measures to be taken to confine public access to the Dedicated Land and to prevent trespass onto the remainder of the Subject Property, provided that the Grantee shall not be obligated to fence the Dedicated Land.

Public use of the Dedicated Land shall be limited to such passive uses as walking, hiking, bird-watching, surf-fishing, and scientific study. No vehicles whatsoever shall be allowed on the Dedicated Land, except such vehicles of the Grantee as are necessary for maintenance and patrol of the Dedicated Land. Signs shall be posted by the Grantee making explicit this prohibition on vehicular use.

Grantee shall be given notice of any construction activity by the Grantors or the Company within or adjacent to the Dedicated Land five days in advance of such activity, except for emergency work. The Company shall also submit to the Grantee copies of all reports required by permit 409-24.

As provided in Condition 13 to permit 409-24 the grant of this easement and declaration of restrictions shall not limit or affect the rights of the Owner or Owners of the Dedicated Land to continue all existing grazing and agricultural uses at their present levels on the Dedicated Land or on other land which may affect the Dedicated Land, and shall not limit or affect the Company or any other lessee's right to continue the existing operations and uses already permitted or permitted under Permit 409-24.

2. Right of Entry. Grantee may enter the Dedicated Land through the private road located on the Subject Property. Grantee's right of entry shall be limited to Grantee's employees only, unless prior approval is received from the Company.

3. Taxes and Assessments. The Grantors or Company agree to pay or cause to be paid all real property taxes and assessments levied or assessed against the Dedicated Land.

4. Maintenance and Liability. Grantee shall assume the maintenance of the Dedicated Land, except such maintenance as is made necessary by the oil production activities of the Company. If the Company deems it necessary the Company shall secure the oil production facilities against trespass by the public. The Grantee shall assume all legal liability arising from or associated with public use of the Dedicated Land, and shall indemnify and hold the Grantors and Company harmless from and against all liability, loss, damage, claims, demands and expense arising from such public use.

5. Recording of Documents. This grant of easement and declaration of restrictions shall be duly recorded in the office of the Recorder for San Luis Obispo County.

6. Successors In Interest. This grant of easement and declaration of restrictions shall run with the Dedicated Land, and all obligations hereby imposed shall be deemed to be covenants and restrictions running with the Dedicated Land and shall bind any person having at any time any interest

2. An easement for limited public access covering the land from the mean high tide line inland to the first row of petroleum production wells (shown as line 2 on Exhibit IV). Said limited public access shall be controlled and restricted to walking and hiking in small organized groups. No motorized or wheeled vehicles other than those necessary to the accepting agency's maintenance and operation of the easement shall be permitted. Steps shall be taken by the public agency or private association accepting the dedication to prevent trespass inland from this easement boundary.

The public agency or private association accepting the offer of dedication shall assume the maintenance of the dedicated land, shall assume all legal liability arising from or associated with use of the dedicated land and shall agree to police the dedicated land to ensure compliance with the conditions of the easements.

The above described easements shall not in any way limit or affect the rights of the landowner to continue all existing grazing and agricultural uses at their present levels on the dedicated land and shall not limit or affect Union Oil's or any other lessee's right to continue the existing operations and uses already permitted or permitted under this permit.

The agency or association accepting this offer or dedication shall submit a plan developed in consultation with the applicants for use of the area consistent with habitat protection and applicants' operations, including access limited to authorized educational and scientific groups and persons, for review and approval by the Executive Director. In case of irreconcilable differences, the habitat protection plan shall be submitted to the Regional or State Coastal Commission for resolution. If after approval of the habitat protection plan there are irreconcilable differences between the managing agency or association (accepting the offer of dedication) and the applicant or owner of the Lease area, such difference shall be submitted to the Regional or State Coastal Commission for resolution.

or estate in the Dedicated Land and shall be binding upon and inure to the benefit of all heirs, successors and assigns of the Grantors.

7. Transferability. Grantee or the Legislature of the State of California may transfer all of its interests in this grant of easement and declaration of restrictions to any appropriate agency of the State of California.

IN WITNESS WHEREOF, Grantors have executed this grant of easement and declaration of restrictions on the 10th day of June, 1980.

SIGNED: WELLS FARGO BANK, N.A., a California corporation as Trustee of the Andre LeRoy Trust, Grantor

By   
Its: C. E. BROADWAY  
ASSISTANT VICE PRESIDENT

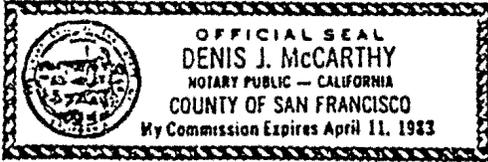
By   
Its: C. I. HORSMAN  
REAL PROPERTY OFFICER

SIGNED: EUGENE RENE LEROY, Grantor

  
Eugene Rene LeRoy

STATE OF CALIFORNIA )  
 ) SS  
COUNTY OF SAN FRANCISCO )

On June 10, 1980, before me, a Notary Public in and for said State personally appeared Eugene Rene LeRoy, known to me to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same.



Denis J. McCarthy  
Notary Public in and for said  
County and State

STATE OF CALIFORNIA )  
 ) SS  
COUNTY OF SAN FRANCISCO )

On this 10th day of June, 1980, before me, DENIS J. MCCARTHY, a Notary Public in and for the State of California, personally appeared C. F. BRADLEY and C. J. HERSHMAN, known to me to be the persons who executed the within instrument on behalf of the corporation therein named as the Trustee of the Andre LeRoy Trust and acknowledged to me that such corporation as the Trustee of the Andre LeRoy Trust executed the same.



Denis J. McCarthy  
Notary Public in and for said  
County and State

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CERTIFICATE OF ACCEPTANCE AND CONSENT  
TO RECORDING OF DEED TO \_\_\_\_\_

This is to certify that the interest in real property conveyed by  
Dedication and Deed dated \_\_\_\_\_, 198\_, from \_\_\_\_\_  
to the \_\_\_\_\_ is hereby accepted effective \_\_\_\_\_,  
198\_, by the undersigned officer or agent on behalf of said \_\_\_\_\_  
pursuant to authority conferred by resolution of said \_\_\_\_\_  
adopted on \_\_\_\_\_, 198\_, and the Grantee consents to recordation  
thereof by its duly authorized officer.

DATED: \_\_\_\_\_, 198\_.

By: \_\_\_\_\_

STATE OF CALIFORNIA            )  
  ) ss.  
COUNTY OF \_\_\_\_\_ )

On \_\_\_\_\_, 198\_, before the undersigned, a  
Notary Public in and for the said State, personally appeared \_\_\_\_\_,  
known to me to be the person who executed the within instrument and  
acknowledged to me that he executed the same. WITNESS my hand and  
official seal.

\_\_\_\_\_  
Notary Public in and for said County  
and State

SUBORDINATION AGREEMENT

THE undersigned, as Lessee under an Oil and Gas Lease dated December 1, 1950, and recorded March 24, 1951, in Book 602, Page 462, Official Records in the Office of the County Recorder of the San Luis Obispo County, California, encumbering the real property described in Exhibit A to this document, hereby acknowledges the Offer to Dedicate Easements for Public Access and Habitat Protection in this document and does hereby subordinate the interests of its Oil and Gas Lease thereto and to interests created upon any acceptance of said Offer.

Dated April 1, 1980

UNION OIL COMPANY OF CALIFORNIA

By: Herbert S. Harry  
HERBERT S. HARRY  
Its Attorney in fact

STATE OF CALIFORNIA }  
County of Los Angeles }

On this 1st day of April, A.D.,  
19 80, before me, P. T. BURGDORF,  
a Notary Public in and for said County and State,

personally appeared HERBERT S. HARRY  
known to me to be the person whose name is subscribed  
to the within Instrument, as the Attorney-in-Fact of  
UNION OIL COMPANY OF CALIFORNIA, and acknowledged to me  
that he subscribed the name of UNION OIL COMPANY OF  
CALIFORNIA thereto as principal and his own name as  
Attorney-in-Fact.

IN WITNESS WHEREOF, I have hereunto set my hand and  
affixed my official seal the day and year in this  
certificate first above written.

P. T. Burgdorf  
Notary Public in and for said  
County and State

My commission expires \_\_\_\_\_

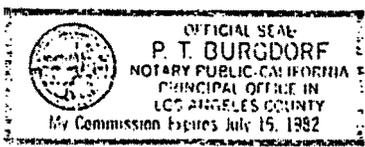


EXHIBIT "A"

PARCEL I:

Beginning at the southwest corner of Subdivision 162 of the Rancho Guadalupe within the boundaries of San Luis Obispo County, State of California, according to Map filed for record July 23, 1880, in the office of the County Recorder of said San Luis Obispo County; thence south 57 degrees east 4973.04 feet to a point; thence east 1980 feet to a point; thence north 48 degrees east 3762 feet to a point; thence north 58 degrees 58 minutes 20 seconds east 1485.11 feet to a point; thence north 58 degrees 58 minutes 20 seconds east 580.91 feet to a point; thence south 83 degrees 03 minutes 20 seconds east 2640 feet to a point; thence north 28 degrees 45 minutes 10 seconds east 1745.22 feet to a point; thence north 41 degrees east 4183.74 feet to a point; thence north 20 degrees east 2626.14 feet to a point; thence west 15,821.63 feet to a point; and thence southerly along a line marking the mean high tide position of the Pacific Ocean to the point of beginning, which said line in general bears south 14 degrees 31 minutes 50 seconds west, and containing 2876.39 acres, more or less.

PARCEL II:

Those certain Subdivisions or portions thereof as hereinafter described and being a part of the Rancho Guadalupe as said Rancho was subdivided and delineated on Map entitled "Map of the Subdivision of Rancho Guadalupe by J.T. Stratton, November 1871", which map was recorded March 8, 1880 in the Recorder's office of San Luis Obispo County, California, and recorded in Book B, Page 422 of Miscellaneous Records, Santa Barbara County, California.

- A. Subdivision 153 of said Rancho, containing 233.92 acres, more or less.
- B. Subdivision 154 of said Rancho EXCEPTING THEREFROM the following described parcel: Commencing on the southerly line of the road along the northwesterly line of Subdivision 154, 150 lengths south 47 degrees 15 minutes west of the post marked "S367"; thence along the southerly line of said road south 47 degrees 15 minutes west 20.50 chains to an angle of said road with post marked "S356"; thence along the southerly line of said Subdivision 154 south 65 degrees 15 minutes east 67.47 chains thence along the southeasterly line of said Subdivision north 51 degrees 45 minutes east 23.09 chains; thence north 42 degrees 45 minutes west 28.94 chains to a point 396 lengths distant south 42 degrees 45 minutes east from a post marked "S369" thence running parallel with the general line of the bluff bank of the Santa Maria River and distant about 1 chain southerly thereof south 86 degrees 45 minutes west 36.62 chains; thence north 42 degrees 45 minutes west 11.72 chains to the point of beginning, and containing 66.02 acres, more or less.

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CERTIFICATE OF ACCEPTANCE AND CONSENT  
TO RECORDING OF DEED TO \_\_\_\_\_

This is to certify that the interest in real property conveyed by  
Dedication and Deed dated \_\_\_\_\_, 197\_\_, from \_\_\_\_\_  
to the \_\_\_\_\_ is hereby accepted effective \_\_\_\_\_,  
197\_\_, by the undersigned officer or agent on behalf of said \_\_\_\_\_  
pursuant to authority conferred by resolution of said \_\_\_\_\_  
adopted on \_\_\_\_\_, 197\_\_, and the Grantee consents to recordation there-  
of by its duly authorized officer.

DATED: \_\_\_\_\_, 197\_\_.

By: \_\_\_\_\_

STATE OF CALIFORNIA            )  
  ) ss.  
COUNTY OF \_\_\_\_\_)

On \_\_\_\_\_, 197\_\_, before the undersigned, a  
Notary Public in and for the said State, personally appeared \_\_\_\_\_,  
known to me to be the person who executed the within instrument and acknow-  
ledged to me that he executed the same. WITNESS my hand and official seal.

\_\_\_\_\_  
Notary Public in and for said County  
and State

1 This is to certify that the offer of dedication set forth above dated  
2 May 15, 1980, and signed by Wells Fargo Bank and  
3 Eugene Leroy, owner(s), is hereby acknowledged  
4 by the undersigned officer on behalf of the California Coastal Commission  
5 pursuant to authority conferred by the California Coastal Commission when  
6 it granted Coastal Development Permit No. 409-24 on 1-4-80  
7 and the California Coastal Commission consents to recordation thereof by  
8 its duty authorized officer.

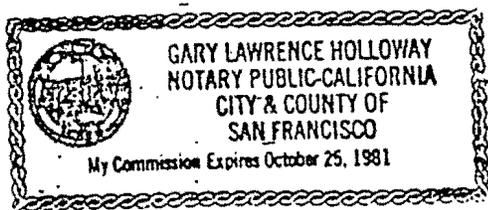
9 Dated: June 11, 1980

10 Linda L. Breeden  
11 Staff Counsel  
12 California Coastal Commission

13 STATE OF CALIFORNIA  
14 COUNTY OF SAN FRANCISCO

15 On 11 June 1980, before the undersigned, a Notary Public  
16 in and for said State, personally appeared Linda L. Breeden known to me  
17 to be the person who executed the within instrument on behalf of said  
18 California Coastal Commission

19 Witness my hand and official seal.



21 Gary Lawrence Holloway  
22 Notary Public in and for said County  
23 and State

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**EASEMENT FOR LIMITED  
PUBLIC ACCESS**

PACIFIC  
OCEAN

**EASEMENT FOR HABITAT PROTECTION  
& PRESERVATION OF OPEN SPACE**

**\*NOTE\***  
THE 4 SYMBOLS WERE ESTABLISHED  
BY THE STATE OF CALIFORNIA  
IN 1970 AS THE LEGAL POINTS  
OF THE STATE.

**DRAFT****INDEMNITY AGREEMENT****DRAFT**

(IRREVOCABLE OFFER TO DEDICATE EASEMENT FOR LIMITED PUBLIC ACCESS)

This Indemnity Agreement ("Agreement") is made as of \_\_\_\_\_, 1980. The Agreement is by and between UNION OIL COMPANY OF CALIFORNIA d/b/a UNOCAL, a California corporation ("Unocal") and \_\_\_\_\_ ("Indemnitee").

**RECITALS**

A. Unocal is the lessee of that certain real property located in San Luis Obispo County and Santa Barbara County, California particularly described in Exhibit A to this Agreement and referred to hereafter as the Guadalupe Dunes. Unocal leases the property under an Oil and Gas Lease dated December 1, 1950 which was recorded on March 24, 1951 in Book 602 at Page 462 of the Official Records of San Luis Obispo County (the "Lease").

B. Unocal has operated and developed the Guadalupe Oil Field on the Guadalupe Dunes under rights granted in the Lease and pursuant to Coastal Development Permit ("CDP") No. 409-24, as amended.

C. As a condition of obtaining CDP No. 409-24, Unocal and its co-applicants -- the Andre LeRoy Trust and Eugene R. Leroy, the owners of the Guadalupe Dunes -- recorded an irrevocable offer to dedicate, to such public agency or private association, if any, as might in future be approved by the California Coastal Commission, "[a]n easement for limited public access" covering that portion of the Guadalupe Dunes extending "from the mean high tide line inland to the first row of petroleum production wells (shown as line 2 on Exhibit IV [to CDP No. 409-24])." A copy of this offer, which was recorded on June 11, 1980, as Document No. 23795, in Volume 2245, at Pages 855-880 of the Official Records of San Luis Obispo County, is attached as Exhibit B to this Agreement (the "Guadalupe Access OTD").

D. Recognizing that unless further assurances were given, no public agency or private association would likely come forward to accept the Guadalupe Access OTD before its expiration on June 11, 2001 because of the diluent contamination now present in the area, Unocal has agreed to indemnify and defend such public agency or private association as provided below.

GUADALUPE DUNES

EXHIBIT NO. 3
APPLICATION NO. Guadalupe
Appeal: ( )
A3-98-91

INDEMNITY AGREEMENT

## AGREEMENT

The parties agree as follows:

### 1. Definitions.

a. "Contaminating Substance" means any toxic or hazardous substances, materials, components, odors or wastes as defined or enumerated under any federal, State of California or local Environmental Law, or as such Environmental Law may be interpreted in any reported decision of any state or federal court having jurisdiction over Unocal, Indemnatee, or any portion of the Guadalupe Dunes or the Surrounding Property.

b. "Environmental Law" means (1) all past, existing, and future laws (whether decision, statute, or ordinance) and regulations relating to any Contaminating Substance, to environmental conditions, or to any activities taken by Unocal on the Guadalupe Dunes or on the Surrounding Property; and (2) all past, existing, and future orders, licenses, permits, or approvals granted or issued under such laws and regulations.

c. "Governmental Authority" means any federal, state, or local governmental entity, agency, or judicial body having jurisdiction over Unocal, or any portion of the Guadalupe Dunes, or the Surrounding Property.

d. "Person" means any natural person or entity, including any corporation, partnership, joint venture, unincorporated organization or association, Governmental Authority, or other entity of any kind, including Unocal and Unocal's directors, officers, employees, agents, contractors, representatives, successors and assigns, and any prior owner, tenant or occupant of any portion of the Guadalupe Dunes. Person, however, does not include Indemnatee.

e. "Surrounding Property" means any and all real property, including the seabed and waters of the Pacific Ocean and the bed and waters of the Santa Maria River, which was or may be subject to contamination caused by a release or threatened release of any Contaminating Substance from the Guadalupe Dunes, including, but not limited to, diluent.

### 2. Indemnification.

a. **Scope.** Unocal shall hold harmless, defend, and indemnify Indemnatee, its agents, and employees (hereafter referred to collectively as Indemnatee) from and against any and

all liability, loss, costs, damages, claims, demands, liens, and expenses of any kind (hereafter referred to individually and collectively as "Claim(s)") which directly or indirectly arise out of or are in any way associated with any of the matters described in the following subparagraphs, whether or not such Claim(s) are caused in whole or in part by the active or passive negligence of Indemnitee:

i. Any past or present operation of the Guadalupe Oil Field and any other past or present activities conducted on the Guadalupe Dunes by any Person;

ii. Any future activities conducted on the Guadalupe Dunes by Unocal or by any Person acting either as Unocal's agent, contractor, or representative or under the direction, supervision or control of Unocal;

iii. Any past, present or future activity by Unocal, or by any Person acting either as Unocal's agent, contractor, or representative or under the direction, supervision, or control of Unocal, on or impacting the Surrounding Property;

iv. The past or present existence, use, storage, generation, production, treatment, disposal, release, discharge or transport of any Contaminating Substance in, on, or under the Guadalupe Dunes whether caused by Unocal or by any other Person;

v. The future existence, use, storage, generation, production, treatment, disposal, release, discharge or transport of any Contaminating Substance in, on, or under the Guadalupe Dunes if caused in whole or in part by Unocal or by any Person acting as Unocal's agent, contractor, or representative, or under the direction, supervision, or control of Unocal;

vi. The past, present or future existence, use, storage, generation, production, treatment, disposal, release, discharge or transport of any Contaminating Substance in, on, or under the Surrounding Property if caused in whole or in part by Unocal or by any Person acting as Unocal's agent, contractor, or representative, or under the direction, supervision or control of Unocal;

vii. The past or present violation by any Person of any Environmental Law related to the Guadalupe Dunes;

viii. The future violation of any Environmental Law related to the Guadalupe Dunes if caused in whole or in part by Unocal or by any Person acting as Unocal's agent, contractor, or representative, or under the direction,

supervision or control of Unocal;

ix. The past, present or future violation of any Environmental Law related to the Surrounding Property if caused in whole or in part by Unocal or by any Person acting as Unocal's agent, contractor, or representative, or under the direction, supervision, or control of Unocal;

x. Any past or present repair, cleanup, remediation, removal, closure, or decontamination activity by any Person relating to any Contaminating Substance in, on, or under any portion of the Guadalupe Dunes, including any preparation for any investigation, testing, or monitoring relating to any such activity, whether or not such activity is undertaken or required as a result of any Environmental Law or Governmental Authority;

xi. Any future repair, cleanup, remediation, removal, closure, or decontamination activity relating to any Contaminating Substance in, on, or under any portion of the Guadalupe Dunes if caused in whole or in part by Unocal or by any Person acting as Unocal's agent, contractor, or representative, or under the direction, supervision, or control of Unocal, including any preparation for any investigation, testing, or monitoring relating to any such activity, whether or not such activity is undertaken or required as a result of any Environmental Law or Governmental Authority;

xii. Any past, present or future repair, cleanup, remediation, removal, closure, or decontamination activity relating to any Contaminating Substance in, on or under any portion of the Surrounding Property, if caused in whole or in part by Unocal or any Person acting as Unocal's agent, contractor, representative or under the direction, supervision or control of Unocal, including any preparation for any investigation, testing, or monitoring relating to any such activity, whether or not such activity is undertaken or required as a result of any Environmental Law or Governmental Authority;

xiii. Any breach by Unocal of any obligation contained in this Agreement; and

xiv. Any past, present or future personal injury, human death, or property damage resulting from or relating to any of the matters described in clauses (i) through (xiii) above.

b. **Notice of Claim(s) And Request For Indemnification.** Indemnitee shall promptly notify Unocal in writing of any Claim(s) for which Indemnitee seeks

indemnification under this Agreement. The notification shall include such details regarding the nature of the Claim(s) as are known by Indemnitee at the time and shall be deemed timely unless Unocal's ability to defend against the Claim(s) is substantially adversely affected by any delay (within the Indemnitee's reasonable control) in providing the notification.

c. **Investigation.** Indemnitee will reasonably cooperate with Unocal in any investigation of any Claim(s) for which Indemnitee seeks indemnification.

d. **Unocal's Notice of Decision Re Request For Indemnification.** Within forty-five days after delivery of Indemnitee's notice pursuant to paragraph 2 b. above, Unocal shall notify Indemnitee in writing whether Unocal will (i) provide unconditional indemnification of Indemnitee against the Claim(s) or (ii) provide conditional indemnification of Indemnitee against the Claim(s). Unocal will provide conditional indemnification in lieu of unconditional indemnification only if it asserts that a Claim(s) tendered by Indemnitee for indemnification and defense is not a Claim(s) covered by this Agreement.

e. **Unconditional Indemnification.** If Unocal agrees to provide unconditional indemnification against a Claim(s), Unocal's obligation to hold harmless, defend and indemnify the Indemnitee will be absolute from that point forward for both indemnification and defense and Unocal may defend the Claim(s) in any manner within Unocal's sole discretion and expense, provided, however, that:

(i) Unocal will not enter into any settlement that imposes any financial obligation on Indemnitee or permit any consequent lien, encumbrance or other adverse charge to exist upon any asset of Indemnitee.

(ii) Unocal will obtain Indemnitee's advance approval (which will not be unreasonably withheld) for any settlement of a Claim(s) that imposes any liability or obligation of any kind (other than an obligation or liability described in subparagraph i of this paragraph) on Indemnitee.

f. **Conditional Indemnification.** If Unocal does not agree to provide unconditional indemnification against a Claim(s), Unocal will nevertheless provide Indemnitee with conditional indemnification against the Claim(s). Conditional indemnification will include all cost of defending such Claim(s) (including attorneys' fees and costs, consultants' and experts' fees and costs and investigation expenses) with legal counsel, consultants and experts chosen by Indemnitee and approved (which

approval will not be unreasonably withheld) by Unocal. If it is determined by a final and non-appealable decision ("Final Decision") in either the underlying action or a subsequent action initiated after final adjudication of the underlying action that the Claim(s) for which Indemnitee has sought indemnification is not a Claim(s) covered by this Agreement, then Indemnitee will reimburse Unocal for any indemnity payments made and all costs incurred by Unocal, in good faith and in the exercise of a reasonable discretion, in defending such Claim(s) (including attorneys' fees and costs, consultants' and experts' fees and costs and investigation expenses). The Parties agree that all findings of fact determined in the underlying action shall be binding upon them in any subsequent action. If no such decision is issued, then Unocal's indemnification obligations will be the same as those for unconditional indemnification.

Nothing in this Section limits Unocal's obligation to indemnify Indemnitee for costs of defending any Claim(s) against which Unocal wrongfully refuses to defend Indemnitee.

**g. Arbitration Re Obligation To Provide Conditional Indemnification.** If Unocal does not agree to provide unconditional indemnification under this Agreement, then either party may seek to obtain a provisional decision whether the Claim(s) is covered by this Agreement ("Provisional Decision"). Until such time as a Provisional Decision is rendered, Unocal shall provide conditional indemnification to Indemnitee.

Either party may seek a Provisional Decision by giving written notice to the other party. Within ten days after notice is given, each party shall submit to the other the names of five (5) retired California Municipal Court, Superior Court, Court of Appeal, or Supreme Court Judges for consideration for designation as arbitrator, together with the disclosure information required pursuant to Civil Code section 1297.121. Within five (5) days after such information is provided, the Parties shall meet and attempt to agree upon an arbitrator. If the parties cannot agree within five (5) days, then each party shall submit its list to the then Presiding Judge of the San Luis Obispo County Superior Court. The parties shall request the Presiding Judge to pick from among those names, first choosing any Judge who appears on both lists and in order of highest total priority on both lists. If no Judge appears on both lists, then the Presiding Judge may choose any Judge on either list to act as arbitrator in the matter absent such Judge's disclosure of information which might cause his impartiality to be questioned.

The arbitration shall be conducted in

accordance with the Rules of Judicial Arbitration (Code Civ. Procedure §§1280 et seq.), except as otherwise provided in this Agreement. The hearing shall be held not less than fifteen (15) days or more than sixty (60) days after the arbitrator is appointed. Unocal shall bear the burden of proof in the proceeding and shall not be relieved of its obligation to provide conditional indemnification as provided in this Agreement absent clear and convincing evidence that the Claim(s) is not one covered by the Agreement. All fees and costs incurred in good faith and in the exercise of a reasonable discretion by any party to the arbitration, including, but not limited to, attorneys fees and the fees of the arbitrator, shall be paid by Unocal.

If the Provisional Decision finds that the Claim(s) is covered by this Agreement, then Unocal shall be required to continue to provide conditional indemnity pending a final decision in the underlying action or a subsequent action as to Unocal's responsibility to provide indemnification to Indemnitee ("Final Decision"), if any.

If the Provisional Decision finds that the Claim(s) is not covered by this Agreement, then Unocal shall not be required to provide further conditional indemnity to Indemnitee.

If the Final Decision finds that the Claim(s) is not covered by this Agreement, or if the Interim Decision finds that the Claim(s) is not covered by this Agreement, and no Final Decision is ever rendered on this question, then Indemnitee shall reimburse Unocal as provided in paragraph f., above.

If an Interim Decision is rendered in this matter, such Interim Decision shall not be admissible, nor used for any purpose, nor cited by either party in the underlying action or in any subsequent action brought to determine the Parties' rights and obligations pursuant to this Agreement.

h. Any amounts paid or incurred by Indemnitee for any Claim(s) against which Unocal provides conditional or unconditional indemnification:

(i) will be paid or reimbursed by Unocal within sixty days after Indemnitee's written demand (which must be accompanied by reasonable substantiating evidence); and

(ii) without limiting Unocal's obligation to pay the amounts in a timely manner, will bear interest after the due date at the prime interest rate on the due date plus two full percentage points.

3. **Relation To Indemnity Clause In Guadalupe Access OTD.** The Parties hereby stipulate and agree that as regards any and all Claim(s) covered by this Agreement, this Agreement alone shall govern and the indemnity clause set forth in paragraph 4 of the Guadalupe Access OTD shall be of no force or effect.

4. **Successors and Assigns.** The terms, provisions, and conditions contained in this Agreement shall be binding upon and inure to the benefit of the Parties and each of them and their heirs, successors, and assigns.

5. **Notice.** Any notice required by this Agreement must be in writing and given by personal delivery or by certified mail, return receipt requested, addressed as follows:

To Unocal:

To Indemnitee:

Any notice given pursuant to this Agreement will be deemed given upon receipt thereof or upon the recipient's refusal to accept delivery. Any party may change the address for delivery of notices by sending notice thereof to all other parties in the manner set forth herein.

6. **Construction By California Law.** This Agreement is entered into in the State of California and shall be construed and interpreted in accordance with California law.

7. **Interpretation.** The terms of this Agreement shall be construed without regard to any presumption or rule regarding construction against the party drafting the Agreement.

Nothing in this Agreement, nor any performance under this Agreement, nor any payment under this Agreement will constitute or be construed as any admission or evidence of any liability or violation of any law, rule, regulation, or policy by any party,

8. **Amendments.** No amendment, modification, or supplement to this Agreement shall be binding on any party unless

it is in writing and signed by both Unocal and Indemnatee.

9. **Waiver.** Any waiver of any breach of any term or condition of this Agreement shall not operate as a waiver of any other breach of such term or condition or of any other term or condition of this Agreement.

10. **Counterparts.** This Agreement may be executed in counterparts.

11. **Authority.** Each party represents and warrants to every other party that it has the power and authority to enter into and perform its obligations under this Agreement.

12. **Use of Terms.** As used herein, whenever the context so requires, the neuter gender includes the masculine and feminine, and the singular gender includes the plural, and vice versa. Defined terms are to have their defined meaning regardless of the grammatical form, number, or tense of such terms.

In witness Whereof, the parties have signed this Agreement as of the date set forth in the first paragraph above.

