

CALIFORNIA COASTAL COMMISSION

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RECORD PACKET COPY

W 8a



November 20, 1998

To: Coastal Commissioners and Other Interested Parties

From: Peter Douglas, Executive Director
Susan Hansch, Deputy Director
Alison Dettmer, Manager, Energy and Ocean Resources Unit
John Dixon, Ph.D., Ecologist, Technical Services Unit

Subject: Staff Recommended Revisions to County of San Luis Obispo Conditions of Approval for Remediation and Abandonment of the Guadalupe Oil Field.

Item No. 8a Wednesday December 9, 1998

Attached are the Commission staff's recommended revisions to conditions of the County of San Luis Obispo's coastal development permit for Unocal's remediation and abandonment of the Guadalupe oil field. The Commission staff has been working very closely with the County of San Luis Obispo, the Regional Water Quality Control Board, the Attorney General's office and Unocal to revise the package of County conditions to meet the standards of the certified LCP and the Coastal Act. Although we have conceptual agreement on the package from the other agencies and Unocal, we expect to receive requests for small wording changes. Therefore, it is likely that the Commission will receive a limited addendum at the Commission meeting.

Attachments:

- Executive Summary, staff recommendation, and site map.
- Recommended revisions to County conditions with ~~strikeouts for deletions~~ and underlines for additions.
- Indemnity Agreement: This is a new document that was not a part of the County's permit. The Indemnity Agreement was prepared by the Attorney General's Office and Commission Staff Counsel in consultation with San Luis Obispo County Counsel, Unocal attorneys, and the State Coastal Conservancy. The Indemnity Agreement will eliminate any liability or responsibility for the oil contamination for any public agency or non-profit group accepting the existing lateral access and conservation easements along the Guadalupe Oil Field shoreline and for any entity accepting a habitat protection easement over the entire 2,700-acre Guadalupe Oil Field.

This version of the Indemnity Agreement is still being reviewed by Unocal.

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Date Filed: October 19, 1998
49th Day: December 7, 1998
Staff: AJD/JD/SMH/LCE/EFD-SF
First Staff Report: October 29, 1998
Second Staff Report: November 20, 1998
First Hearing Date: November 4, 1998
Second Hearing Date: ... December 9, 1998
Substantial Issue Hearing Opened November 4, 1998
Item No. November 4, 1998: W 13.5a
Item No. December 9, 1998: W 8a
Commission Action:
Commission Vote:

STAFF RECOMMENDATION: APPEAL^{*}
SUBSTANTIAL ISSUE

Local Government: **San Luis Obispo County**

Decision: Unocal Guadalupe Remediation and Abandonment Project (Phase I:
Consists of six stages starting in 1998 and ending in 2003) D890558D

Appeal No.: **A3-98-91**

Project Applicant: **Unocal Corporation**

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. It covers approximately 2,700 acres within the Guadalupe-Nipomo Dunes system. Most of the lease is within San Luis Obispo County, though a small portion extends into Santa Barbara County along the southern boundary. The City of Guadalupe is located approximately three miles east of the site, Nipomo is approximately five miles to the northeast, and Santa Maria is approximately ten miles to the east. The site is bounded by the Pacific Ocean on the western side and the Santa Maria River and estuary/lagoon system on the southern side. The Guadalupe Field includes valuable dune habitat, wetlands, fresh water marshes and ponds, rare, threatened and endangered plants and animals, sandy beach, and the Santa Maria River. (See Exhibit I — Site Map.)

^{*} This November 20, 1998, Staff recommendation includes *only* the Executive Summary, site map, and the recommended changes to the County's permit conditions.

Coastal Commissioners Areias and Wan

EXECUTIVE SUMMARY

STAFF RECOMMENDATION

The staff believes that the appeal of Coastal Commissioners Areias and Wan regarding the Unocal Guadalupe Remediation and Abandonment Project Coastal Development Permit D890558D for remediation and restoration of the Guadalupe Oil Field raises SUBSTANTIAL ISSUE under the County of San Luis Obispo's certified local coastal program. On November 4, 1998, the Commission opened the substantial issue hearing and continued the hearing open until December. The purpose of deferring a decision on substantial issue was to give the staff the time to work co-operatively with Unocal and San Luis Obispo County and the Regional Water Quality Control Board to develop a package of recommended conditions/revisions to address Coastal Act and LCP issues.

The staff has worked collaboratively with San Luis Obispo County and the Regional Water Quality Control Board to make comprehensive changes to the County's permit package. It is the Commission staff's position that the recommended revised condition package now meets the standards of the San Luis Obispo County LCP and the Coastal Act. Because of the mailing deadline San Luis Obispo County and Unocal haven't had adequate time to review the final wording in this recommended package. Therefore, staff anticipates that we will make small refinements and prepare a limited addendum to be distributed at the Commission meeting.

The staff recommends that the Commission; (1) take public testimony on the recommended revised package of County permit conditions; (2) make any desired changes to the conditions; and (3) ask the County to adopt the revised conditions. If the County makes all the recommended revisions and issues a new permit that Unocal accepts, staff recommends that the appeal be dropped.

HOW PROJECT QUALIFIES AS APPEALABLE UNDER THE COASTAL ACT

This appeal was filed under Coastal Act Section 30603(a)(1,2,5), which allows appeals for development (i) 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 tideline of the sea where there is no beach, whichever is the greater distance, or (ii) located within 100 feet of any wetland, estuary, or stream, or (iii) which constitutes a major public works project or a major energy facility.

ISSUE BEFORE THE COASTAL COMMISSION AT ITS DECEMBER 8, 1998, "NO SUBSTANTIAL ISSUE"/"SUBSTANTIAL ISSUE HEARING"

The issue before the Coastal Commission at this stage is defined by the Coastal Act as follows: Does a substantial issue exist as to conformity of the proposed development with the applicable certified local coastal program? The Commission's appeal regulations state that "Unless the Commission finds that the appeal raises no significant question as to conformity with the certified local coastal program ... the Commission shall consider the application de novo ..." (*Title 14, California Code of Regulations, Section 13115*)

CLEANUP OR ABATEMENT ORDER NO. 98-38

On April 3, 1998, the Central Coastal Regional Water Quality Control Board (RWQCB) issued a Cleanup or Abatement Order (CAO 98-38) requiring Unocal to remediate and abandon the Guadalupe Oil Field using various technologies. The order was amended on July 13, 1998 and November 6, 1998. The RWQCB decided to take 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. Two and one-half of these plumes are located in the Commission's original permit jurisdiction and will be covered by a later coastal permit application. The CAO requires Unocal to begin the remediation project no later than December 31, 1998. (Exhibit II)

UNIQUENESS OF THE GUADALUPE/NIPOMO DUNES AREA

The Guadalupe Oil Field is located within the Nipomo Dunes complex, which extends from the Pismo Beach area in southern San Luis Obispo County to Mussel Rock in northern Santa Barbara County. The ecological significance of this dune-wetland system has been well established and documented in a wide range of reports and planning documents. In a review prepared for the Nature Conservancy, the Nipomo Dunes System was characterized as the largest, most scenic and most ecologically diverse of the coastal dune-wetland complexes in California.

In support of its designation as a National Natural Landmark, the Department of the Interior described the area's significance as follows:

The Nipomo Dunes-Point Sal Coastal Area contains the largest, relatively undisturbed coastal dune tract in California. Five major plant communities are well represented and the flora exhibits the highest rate of endemism of any dune area in western North America. Dune succession is exceptionally well displayed. No comparable area on the Pacific Coast possesses a similar series of freshwater

lagoons and lakes so well preserved, with minimal cultural intrusions and harboring such great species diversity. The area serves as habitat for both rare and endangered plants and animals besides being one of the most scenically attractive areas in southern California.

The area supports many federally-listed, state-listed and proposed threatened or endangered species. These include (but are certainly not limited to) the La Graciosa thistle, beach spectacle-pod, California brown pelican, western snowy plover, American peregrine falcon, tidewater goby, steelhead, California red-legged frog, the southwestern willow flycatcher and Least Bell's vireo. The dune, wetland, estuarine and riparian habitats within the project area provide critical habitat, food, resting, breeding and nursery habitat for many of these species. Coastal and offshore marine waters provide both seasonal and year-round habitat and resources for countless marine invertebrates, fish, birds and mammals, and support commercially and recreationally important fisheries. The area as a whole, in addition to supporting past fishing and oil development activities, has also been a popular recreation destination. There is public access at Oso Flaco Lake Natural Area two miles to the north, and at Rancho Guadalupe County Park just south of the Guadalupe Oil Field.

HISTORY OF OIL PRODUCTION AT GUADALUPE

The Guadalupe Oil Field site is part of the Unocal LeRoy Lease which covers approximately 2,700 acres within the Nipomo Dunes system. Most of the lease is within San Luis Obispo County, though a small portion extends into Santa Barbara County along the southern boundary. The site is bounded on two sides by surface waters, the Pacific Ocean on the western side and the Santa Maria River and estuary/lagoon system on the southern side.

Oil exploration and production began on the Guadalupe site with the Sand Dune Oil Company in 1946. The field was purchased in 1948 by the Continental Oil Company, which completed the first commercial well. Continental oil completed five additional wells and shut down the field in 1949. Thornbury acquired the field and returned it to production in 1950, and expanded operations. Unocal acquired the lease to the Guadalupe oil field in 1950 and operated it until 1990, using "diluent" (a kerosene-like additive used to thin oil) to assist in the pipeline transportation of the heavy crude oil pumped from the field. During the time that diluent was used at the site, numerous leaks developed in the tanks and pipelines used to distribute it around the field. Over time, these leaks have led to serious contamination of the ground water below the site.

Diluent has accumulated in plumes at the water table in the dune sand aquifer (about 10-130' down, depending on location). The thickness of separate-phase diluent varies from thin visible sheens to as much as 6 feet in places. Locations with the greatest known thickness of separate phase diluent are the Diluent Tanks area, the 5X area, the Compressor Plant, and Tank Battery 9. The separate-phase diluent can act as a long-term source of contamination to the underlying

ground water. As the ground water passes through these areas, some of the diluent dissolves into the water and moves downstream with the ground water flow, generally from east to west. This has resulted in ground water contamination beneath much of the site, with a flux towards the ocean and the Santa Maria River.

There are also at least 150 "sumps." These sumps are concentrated areas of contamination consisting of drilling muds, heavy metals, and a variety of petroleum products.

SYNOPSIS OF EVENTS REGARDING CONTAMINATION AT THE GUADALUPE OIL FIELD

- February 1990. Diluent, a kerosene-type of product used to thin crude oil, is spotted on the beach. Unocal shuts down production throughout the field and notifies regulatory agencies. Use of diluent is subsequently suspended in future pumping activities.
- July 1992/June 1993. OSPR performs two warranted searches on Unocal offices.
- March 1994. Unocal pleads no contest to three criminal charges, including failing to report diluent leaks, and agrees to a \$1.5 million cash settlement. The state attorney general sues Unocal for unspecified damages.
- 1994 - 1998: The Executive Director of the Coastal Commission issues four emergency permits to excavate and address the most severe, emergency actions to minimize discharge of oil into surface waters.
- July 1996. Unocal agrees to pay for an environmental impact report of its plan to clean up fouled the Guadalupe Oil Field. San Luis Obispo County oversees the preparation of the EIR.
- March 1998. Final Environmental Impact Report (FEIR) for Guadalupe Oil Field Remediation and Abandonment is certified by San Luis Obispo County.
- April 1998. The California Regional Water Quality Control Board (RWQCB) on April 3, 1998, issues Cleanup or Abatement Order (CAO) No. 98-38 (amended July 13, 1998), for the Unocal Guadalupe Oil Field. The RWQCB decides to take 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.
- July 1998. The state Attorney General announces a \$43.8 million settlement with Unocal for oil pollution contamination that occurred at Unocal's Guadalupe oil field over the past 40 years. The Settlement Agreement includes the Department of Fish and Game (DFG), the Coastal Conservancy, and the Central Coast Regional Water Quality Control Board

(RWQCB). The Settlement Agreement covers damages for spill impacts, not mitigation for damages caused or to be caused by the clean-up. The Settlement Agreement *does not* constrain the Coastal Commission's regulatory authority in any way. (*Note: Full text of Settlement Agreement was sent to Commission for October 1998 meeting.*)

- September 22, 1998. The San Luis Obispo County Board of Supervisors approves a comprehensive coastal development permit for the Unocal Guadalupe Oil Field Remediation Project with 252 conditions.
- October 19, 1998. Commissioners Areias and Wan appeal the County's coastal permit as not fully addressing the policies of the certified LCP and the Coastal Act.

EXTENT OF CONTAMINATION

Assessment activities to characterize and delineate the underground hydrocarbons have been conducted at the site and it is Unocal's position that the diluent characterization in the Dune Sand Aquifer (DSA) is largely complete. As of November 17, 1998, characterization efforts have included the installation of 717 monitoring wells (78 are inactive). In addition, 2,235 soil borings, 345 hand augers, 375 cone penetrometer pushes, and 11,874 soil gas samples were obtained. The soil gas analyses were conducted over all hydrocarbon-bearing pipelines and historic tank settings to screen all potential diluent release sources.

In addition to characterizing the DSA, the RWQCB has required Unocal to characterize any confining units that separate the DSA and the regional aquifers. Although this additional assessment work continues, results at this time indicate that the diluent has not affected the regional system.

Recently, Unocal conducted non-diluent constituent sampling and determined that Polychlorinated Biphenyls (PCBs) are associated with some of the diluent plumes. Initial characterization indicates that the remedial actions mandated by CAO 98-38 for the associated diluent plumes will not be affected. Unocal is conducting additional assessment efforts for non-diluent constituents at the direction of the RWQCB and will report the results as they become available.

Pilot studies have been conducted to test the effectiveness of various remediation methods. Under this pilot test program, 10 extraction wells are in operation at the 5X site.

CLEANUP ACTIONS TO DATE

A number of remedial activities have taken place at the Guadalupe Oil Field under emergency Coastal Development Permits issued by the County of San Luis Obispo ("County") or the California Coastal Commission ("Commission"). Follow-up permits for the emergency remedial

actions are to be included in regular Coastal Development Permits to be issued by the County or the Commission for their respective jurisdictions.

COUNTY		COASTAL COMMISSION
SLO P890275E	Installation of Bentonite Wall	CCC E-94-12 5X Beach Excavation Project
SLO P890275E (MODIFICATION 1)	Installation of PVC Barrier	CCC E-95-18-G Leroy 2 Sump Removal
SLO P890275E (MODIFICATION 2)	Installation of Fish & Game Wells	CCC E-97-03-G Sheetpile Wall
SLO 980275E (MODIFICATION 3)	Installation of Pilot Recovery System	CCC E-98-09-G A2A Excavation
SLO P890275E (MODIFICATION 4)	5X Excavation Support Facilities	
SLO P890275E (MODIFICATION 5)	5X Excavation Support Facilities	
SLO P890275E (MODIFICATION 6)	Installation of Monitoring Wells	
SLO P890275E (MODIFICATION 7)	Installation of Biosparging Wells	
SLO P970369E	7X Excavation	

SAN LUIS OBISPO COUNTY'S APPROVAL OF UNOCAL'S PROPOSED PROJECT

The County of San Luis Obispo issued Coastal Development Permit/Development Plan D890558D (September 22, 1998), with a total of 252 Conditions of Approval.

Exhibit E — Past Remedial and Characterization Projects
27 Conditions of Approval

Exhibit F — Phase I Remediation Projects
175 Conditions of Approval

Exhibit G — Oil Field Abandonment
50 Conditions of Approval

The County's permit covers Phase I of the remediation activities (cleanup of 17 plumes), the project to be conducted in six stages from 1998 - 2003..

Stage 1 — Involves excavation of sites M4 and L11, and installation of biosparge and product recovery systems.

Stage 2 — Includes excavation of sites 5X (west and east) and A2A north.

Stage 3 — Includes excavation of site M2, B12, C12, and TB1 and associated sumps.

Stage 4 — Includes excavation of sites A5A and C8 (north and south). Following the excavation of sites C8, horizontal biosparge wells will be installed.

Stage 5 — Includes excavation of site B2-3 and, if needed, site N12.

Stage 6 — Includes excavation of sites C7 south and B6.

San Luis Obispo County has coastal development permit jurisdiction for 14½ of the Phase I sites; the Coastal Commission has original permit jurisdiction for 2½ Phase I sites (the entire 5X site, the entire A2A site, and half of the A5A site).

PORTION OF THE PROJECT WITHIN COMMISSION'S ORIGINAL PERMIT JURISDICTION

Unocal has submitted a coastal permit application to the Coastal Commission to cover:

1. Four emergency permits granted by the Executive Director since 1994;
2. Required cleanup of 2½ sites within the Commission's original permit jurisdiction (entire 5X site, entire A2A site, and half of A5A site); and
3. Request to retain the road improvements installed without a permit and subject to a pending violation.

The application is currently incomplete and hasn't been filed.

It would be preferable for the Commission to review the appeal and the permit application together. However, because the RWQCB Cleanup and Abatement Order require Unocal to begin cleanup of areas within the appeal area by December 31, 1998, staff decided to concentrate our efforts on the appeal now. We expect to schedule the Commission's coastal permit for February 1999. Commission action in February 1999 on those plumes located within its direct permit

jurisdiction will not slow down implementation of CAO No. 98-38; cleanup of those plumes located within the Commission's permit jurisdiction is not scheduled to begin until Fall 1999.

SUMMARY OF THE GROUNDS FOR APPEAL

The following discussion provides highlights of why the appeal raises a substantial issue.

I. Conformity with the San Luis Obispo County certified local coastal program (LCP) and Coastal Act public access, recreation policies, habitat preservation.

LCP policy sections 23.04.420 establish criteria for the requirement of public access that are not met by the conditions of this permit. The County adopted conditions of approval for the Unocal Guadalupe Project aimed at mitigating impacts to public access and recreation. For example, County Conditions 171 and 172 require Unocal to extend existing offers of dedication for lateral public access and conservation easements originally required in-part by a 1980 Coastal Commission permit (CDP409-24) "to at least 25 years after the issuance of a closure letter for the site by the RWQCB." It has already been almost 19 years since the OTDs were originally required and these OTDs have not been accepted by a public agency or private non-profit group because of the ongoing oil contamination. To be fully consistent with the public access components of the certified LCP and the Coastal Act Unocal must be required to include an indemnification with the OTDs so that they can be expeditiously accepted.

II. Conformity with the San Luis Obispo County certified LCP policy regarding habitat protection.

The County's conditions of approval include numerous requirements for habitat protection and restoration. These conditions are in many cases vague and inconsistent and lack performance standards to ensure that environmentally sensitive habitats are protected and/or restored. The conditions as now written do not provide the clarity and specificity required to conform to the sensitive resource area and environmentally sensitive habitat policies (23.07.160 and 23.07.170) policies of the certified LCP and the Coastal Act.

III. Other Coastal Resources Policies of the certified LCP and the Coastal Act.

The San Luis Obispo County certified LCP includes broad coastal resource policies that follow the Coastal Act. The Unocal permit includes conditions designed to address the extensive impacts that will occur as a result of this oil field remediation project. A number of the County's conditions lack the specificity, clarity, schedules, and performance standards necessary to ensure compliance with the LCP policies and the Coastal Act.

SUMMARY OF THE MAJOR CHANGES MADE TO THE COUNTY CONDITIONS

The County's original package of permit conditions included many of the important elements necessary to meet the LCP and Coastal Act, but lacked critical details and specificity. Commission staff worked collaboratively with the County, the Regional Water Quality Control Board, the Attorney General's office, and Unocal to revise the County's condition package to address all the issues raised in the appeal and to bring the permit conditions in compliance with the San Luis Obispo County certified LCP and the Coastal Act.

The complete set of revised conditions is attached. The changes include:

- Increased clarity and specificity on requirements and schedules.
- Performance standards for restoration of disturbed areas.
- Independent performance monitoring.
- Increased Coastal Commission oversight and involvement in review of remediation, abandonment and restoration activities.
- Processes to co-ordinate cleanup and restoration activities.
- A new Indemnity Agreement to eliminate oilfield-related liability for any agency or non-profit group that will accept existing lateral access and conservation easements along the beach and for the field wide habitat easement.

EXHIBIT E
CONDITIONS OF APPROVAL
PAST REMEDIAL AND CHARACTERIZATION PROJECTS

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Note: The Coastal Commission staff has reviewed and suggested revisions to only those conditions of Exhibit E that address past emergency projects authorized by the County of San Luis Obispo. The Coastal Commission will at a future hearing consider the impacts of and require appropriate mitigation for past projects that were the subject of emergency permits issued by the Executive Director of the Coastal Commission since 1994 (i.e., partial 5X plume excavation, 5X sheetpile wall installation and A2A plume excavation).

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-95-15-G Installation of Sheetpile Wall (I)~~
 - ~~l. CCC E-96-2-G Installation of Sheetpile Wall (II)~~
 - k. CCC E-9697-03-G Installation of Sheetpile Wall (III)
[Note: E-97-03-G supersedes E-95-15-G and E-96-02-G]
 - 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. Implement the site abandonment plan to ensure the asphalt pad at Tank Battery 8 is removed.~~
[Note: This requirement is addressed in Exhibit G Condition 1.]

~~4. Implement Mitigation Measure OBV-1(d) consistent with the time frames established in CAO 98-38.~~
[Note: Implementation of a Revegetation, Habitat Restoration, and Monitoring Plan is addressed in Condition 65.]

4.3. 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.

5.4. ~~Implement condition G-7-3 requiring~~ The 5X sheetpile wall to shall be removed at the earliest opportunity following excavation of the 5X plume.

6.5. In conjunction with the routine surveys of beach transects at the 5X beach (E-97-03-G, ~~Mitigation Measure~~ 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 (16th, 50th, and 87th percentile grain sizes by weight, at a minimum);
- Overfill ratio; and
- Color analysis and color sample of all replacement and native material.

~~7. Implement the Coastal Commission Emergency Permit E-95-18-G Condition 17 requiring a post-construction monitoring and restoration plan.~~

8.6. 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.

9.7. 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.

11.8. Prior to issuance of the grading permit for the 5X excavation, or Notice To Proceed for any control and/or treatment system, ~~Unocal shall implement Mitigation Measure W-12 (Section f2 of this EIR) requiring a comprehensive Inspection and Maintenance (I and M) program for all control and treatment systems, including the interim containment system at the 5X site.~~ 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.

11.9. Unocal shall develop ~~A~~an Emergency Response Plan ~~shall be developed~~ 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

~~a spill near the breach~~ and skimming separate-phase diluent from river water prior to discharge to coastal waters or migration to the upper reaches of the lagoon.

- ~~13.10.~~ 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 ~~All areas that were~~ disturbed as a result of remediation activities allowed under emergency permits, ~~issued by San Luis Obispo County~~ Unocal shall ~~be restored to the physical and biological conditions that existed prior to the disturbance~~ submit a site-specific Habitat Restoration, Revegetation, and Monitoring Plan as described in Condition F65, 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, ~~to the maximum extent feasible.~~

~~8. biological monitor after consultation with Unocal and other agencies, all areas disturbed under emergency permits have returned to pre-disturbance conditions. Disturbed foredune and backdune habitat shall be restored to pre-disturbance conditions. Non-native plant species (except sea rocket) shall be removed and replaced with native vegetation.~~

- ~~15. In areas where foredune and/or backdune habitat has been permanently disturbed, Unocal shall restore other disturbed areas onsite as a compensatory measure.~~
[Note: This requirement is addressed in Condition 11.]

- ~~16.12.~~ During the breeding and nesting season (March 1 – September 15), Unocal shall protect existing snowy plover breeding habitat by posting signs and excluding any 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.

- ~~18.13.~~ Unocal shall (a) ~~C~~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) ~~I~~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.

- ~~19. Implement the Coastal Commission Emergency Permit E-97-3-G Mitigation Measure (MM-14) requiring a foredune stabilization plan.~~
[This requirement is addressed in Condition 11.]

~~20. Continue monitoring of natural revegetation and erosion in the foredune habitat impacted by sheetpile wall installation. Monitor plant establishment and remove invasive exotics including beachgrass, veldtgrass, and iceplant. Monitor shall be a qualified biologist approved by the Coastal Commission in consultation with the County of San Luis Obispo. Identify contingencies if natural revegetation is not successful or if erosion becomes problematic. This could be done by expanding current Foredune Stabilization Plan (Entrix [Anderson], 1995) or developing a new Erosion Control Plan that incorporates the use of revegetation practices to promote sand stabilization. The plan shall be approved by the Coastal Commission and the County, and shall identify methods to collect seed from local sources and apply to areas where vegetation recovery is not adequate.~~

[Note: This requirement is addressed in Condition 11.]

~~21. Implement revegetation of all foredune habitats directly or indirectly impacted by sheetpile wall installation procedures. Because there has been poor success with salvage and replanting of dune plant species, a combination of direct seeding and planting of container grown plants is recommended for this site. Seed can be collected from nearby undisturbed dunes and applied directly to the disturbed areas or grown in suitable containers and outplanted to the site. Collect seed of dunedelion and Blochman's leafy daisy from local populations and disperse over the impact zone. Blochman's leafy daisy may be container grown from seed or cuttings (depending on timing) and replanted on the site. Monitor and record progress of revegetation. This information will be valuable for future restoration efforts at the Guadalupe Oil Field. Seed/propagule collection areas and methods; propagation techniques; growing facility and staff; and planting methods and staff shall be identified in a revegetation plan and approved by the Coastal Commission, the County of San Luis Obispo, and the California Department of Fish and Game prior to implementation.~~

[Note: This requirement is addressed in Condition 11.]

~~22.14. Whenever the Santa Maria River flows along the beach, Unocal shall monitor the river bank on the southeast corner of the sheetpile wall shall be monitored for erosion and loss of habitat and a report submitted monthly a report to appropriate agencies the County Department of Planning and Building, the Coastal Commission, RWQCB, CDFG/OSPR and USFWS regarding activity; 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.~~

~~22. Disturbed backdune habitat at C12 shall be restored to pre-disturbance conditions, and non-native plant species shall be removed and replaced with native vegetation.~~

[Note: This requirement is addressed in Condition 11.]

- ~~24. Unocal shall restore habitat on the LeRoy #2 Well Sump access road if feasible and compensate for temporary habitat losses through a program to control the spread of invasive exotic plant species in the vicinity of the project location.~~
[Note: This requirement is addressed in Condition 65 of Exhibit F.]

25.15. 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.

26.16. Prior to implementation of ~~the~~ 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

26.17. Prior to issuance of a construction permit for Stage 1, ~~the applicant~~ 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

27.18. 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. ~~175-112~~ 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) **Clean-Up 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 areas ~~B-12, C-12~~ **M-4 (partial), L-11 (partial), TB-1N, TB-1M and TB-1S** to start by ~~December 31, 1998~~ **fourth quarter 1998** and be completed by December 31, 1999 **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) ~~One (1)~~ horizontal biosparging well installed at ~~B12-M4~~ **(post excavation)**, two (2) horizontal biosparging wells installed at **L11 (post excavation)**; and ~~two (2)~~ **three (3)** horizontal biosparging wells installed at TB8.
 - iii. 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 site will be used for pilot testing. 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 ~~December 31, fourth quarter 1999~~ and be completed by December 31, the end of the fourth quarter 2000.
 - ii. Excavation of sumps in areas **5X, LeRoy 3, LeRoy 6, A2A, A½X and 8X** to start by the fourth quarter 1999 and be completed by the end of the fourth quarter 2000.

~~c.n.~~ Stage 3

- i. Excavation of separate-phase diluent at plume areas ~~M2, and M4~~ B12, C12, and TB1 to start by ~~June 30, second quarter 2000~~ and be completed by ~~December 31, the end of the fourth quarter 2000.~~
- ~~ii. Two (2) horizontal biosparging wells installed at M4 (post excavation).~~
- 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.o.~~ Stage 4

- i. Excavation of separate-phase diluent at plume areas A5A and C8 starting by ~~December 31, fourth quarter 2000~~ and be completed by ~~March 31, the end of the first quarter 2001.~~
- ii. Two (2) horizontal biosparging wells ~~installed 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 B3/B3A to start by second quarter 2001 and be completed by third quarter 2001.

~~e.p.~~ Stage 5:

- i. Excavation of separate-phase diluent at plume areas B2-3 and N12 to starting by ~~June 30, second quarter 2001~~ and be completed by ~~October 31, 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.q.~~ Stage 6:

- i. Excavation of separate-phase diluent at plume areas C7(S) and B6 to starting by ~~December 31, fourth quarter 2001~~ and be completed by ~~June 30, the end of second quarter 2002.~~

2. ~~If it is determined by the Regional Board~~ RWQCB determines after excavation of plume TB1 that excavation is required at plume area C2, excavation of separate phase diluent shall start by ~~December 31, fourth quarter 2001~~ and be completed by ~~June 30, the end of the second quarter 2002.~~ Other- To include remedial projects not included in the CAO No. 98-38, project modifications as approved by the RWQCB and these conditions may be authorized after the department's review and approval of specific workplans. 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 the department 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 Director 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 ~~the department~~ County Department of Planning and Building for compliance with ~~mitigation measures and these conditions of approval.~~

NATURAL DEGRADATION

~~7. If the RWQCB determines that expected natural degradation rates have not been met, additional excavation may be required at plume sites. Prior to commencement of additional excavation, Unocal shall submit excavation plan to the department for compliance with these conditions of approval.~~

CONTINUED SITE CHARACTERIZATION

8.7. Unocal shall submit to the County Department of Planning and Building and the Executive Director of the Coastal Commission for review and approval ~~copies of any the plan submitted to the RWQCB plan for continued site characterization to the Department. The Plan shall include the areas to be investigated, measures to be taken to protect terrestrial and other sensitive resources including the methods used to access the sites~~ 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 ~~department~~ County Department of Planning and Building and the Executive Director of the Coastal Commission when available.

9. ~~Prior to site characterization activities off of any road or pad, a biological reconnaissance shall be completed for all locations by a biologist/botanist approved by the Department. Sensitive species shall be identified and avoided. Access routes to assessment locations shall be surveyed.~~

[Note: This requirement is addressed in Condition 65.]

PILOT STUDIES

10.8. ~~The CAO approved by the RWQCB 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 department~~ County Department of Planning and Building, the Executive Director of the Coastal Commission and the CDFG/OSPR for review for and approval to ensure compliance with mitigation measures and these conditions of approval. Pilot studies may require additional environmental review and coastal land use permitting.

SOIL MANAGEMENT

- 10.9. 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.
- 11.10. 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.
- 12.11. ~~First stage excavation projects~~ 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 ~~treatment~~ parameters for concentrations of TPH and other constituents for approved backfill material ~~that is stockpiled at TB9, TB1 and other locations.~~
 - ☐ b. Borrow site Q11 ~~(no other borrow sites are authorized).~~
 - ☐ Soil from the LTU.
 - 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. ~~Stage II - VI excavation projects may stockpile contaminated soil at TB9 and TB8 pursuant to the *Implementation Plan*. Backfill sources for Stage II - VI projects may include:~~

~~Treated soil that satisfies the RWQCB's treatment parameters for approved backfill material that is stockpiled at TB9 and other locations...~~

~~borrow site Q11~~

~~Soil from the LTU~~

~~Material treated at an on-site thermal desorption units.~~

~~□ Borrow site Q4 may be used as a borrow site if approved by the department after a site specific, independent biological and geomorphological review.~~

~~All treated soil to be used for backfill purposes for any Stage originating from TB9 shall be sampled and analyzed for TPH and other constituents as required by the RWQCB. Soils will not be used for backfill purposes unless it meets the requirements of the RWQCB. Results of sampling and analysis shall be submitted to the RWQCB for review and approval prior to its use as backfill. results of sampling and analysis shall be submitted to the department.~~

13.12. 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 (16th, 50th, and 87th percentile grain sizes by weight, at a minimum);
- Overfill ratio; and
- Color analysis and color sample of all replacement and native material.

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 ~~pursuant to the requirements of the South County Area Plan (Coastal). The CAO No. 98-38 approved by the RWQCB~~ 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 ~~department~~ County Department of Planning and Building and the Executive Director of the Coastal Commission for review and approval. 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, ~~the land use permit~~ 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 ~~state stage~~ of activities. These agencies include but are not limited to:
- ~~RWQCB~~ Regional Water Quality Control Board
 - California Dept. Of Fish & Game
 - U.S Army Corps of Engineers
 - U.S. Fish & Wildlife Service
 - California Coastal Commission
 - State Lands Commission
 - Air Pollution Control District
 - Division of Oil & Gas and Geothermal Resources

PROJECT MONITORING

19. **Prior to the issuance of a construction and/or grading permit for Stage 1, the applicant** Unocal shall fund ~~a qualified contractor~~ 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 the applicant 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 ~~M~~monitor(s) shall prepare a specific mitigation tracking monitoring plan and submit it to the ~~department~~ 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, ~~the applicant~~ Unocal shall submit to the ~~county~~ 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 ~~the applicant~~ 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. ~~The applicant~~ Unocal shall, as a condition of approval of this Coastal Development Permit/Development Plan defend, at ~~his~~ 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. ~~Applicant~~ 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 ~~applicant~~ of ~~his~~ its obligation under this condition.

GEOLOGY

- ~~23. The separate phase diluent plume at 5X shall be remediated and sheetpile walls removed prior to expiration of the California Coastal Commission Emergency Permit E-96-3-G on January 1, 1999 unless otherwise decided by the Coastal Commission.~~

- ~~24. Prior to issuance of a grading permit for any excavation project, Unocal shall submit pre-construction topographic survey information to the Department for review and approval. Prior to the commencement of next stage excavation projects, Unocal shall commence post-construction topographic surveys for areas that will not be utilized for future stages approved by the Department. Surveys are to be obtained to ensure dune replication is acceptable. The area surveyed must include the entire limits of work including access corridors, staging areas, overburden storage areas and topsoil storage areas.~~
[Note: This requirement is addressed in Condition 65.]

- ~~29. After the completion of excavation projects and replanting activities, soil compaction, grading, and post-construction survey shall be submitted to the Department for review and approval.~~

[Note: This requirement is addressed in Condition 65.]

~~30.23.~~ At a minimum, Unocal shall implement some or all of the following measures ~~shall be implemented~~ at any time when sustained wind speeds exceed 20 knots (25 mph) ~~or and~~ when, ~~determined by the monitors~~ 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 ~~department~~ SLOAPCD are implemented.

~~27.24.~~ 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.

~~28.25.~~ 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.

~~34. Several feet of sheetpile freeboard shall be left above the ground surface during excavation to restrain any sand that may move toward the excavation in order to minimize propagation of the failure up the slope.~~

[Note: This requirement is addressed in Conditions 25 and 26.]

~~35. Sheetpile walls shall be designed to withstand appropriate earthquake loading with a Factor of Safety of 1.0.~~

[Note: This requirement is addressed in Conditions 25 and 26.]

~~36. As part of grading permit approval, a registered engineer shall certify all excavation support systems.~~

[Note: This requirement is addressed in Condition 25.]

~~37. Open excavation areas will be backfilled as soon as possible as determined by the Department and the ground surface restored to its approximate original profile.~~

[Note: This requirement is addressed in Conditions 9 and 65.]

~~38.27. 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.~~

~~39.28. 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

~~34.29. Weekly sampling of interstitial waters, sediments and in the water column shall be collected and analyzed at sites within the surf zone immediately adjacent to the 5X plume on a weekly basis during the 5X excavation. If it is determined that remediation activities are causing marine discharge of hydrocarbons, the activities will cease until it is determined how the activities can be conducted without causing additional discharges. 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.

34.30. 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. Unocal Chemical soil stabilizers shall not be used unless specifically authorized by the RWQCB and SLOAPCD.

35.31. 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.

40.32. 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.

41.33. Unocal shall sample ~~S~~surface waters and sediments in the dune slacks and wetlands ~~shall be sampled~~ for BTEX and TPH as part of a regular monitoring program. The remedial activities mandated in ~~Clean Up Order~~ CAO No. 98-38 ~~should~~ 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 ~~the applicant~~ Unocal to undertake additional actions to eliminate or reduce to the extent possible, discharges to all surface water as soon as possible. ~~The applicant~~ Unocal shall submit ~~the planned~~ any additional proposed remedial actions to the ~~department~~ County Department of Planning and Building for review and approval based

~~on consistency with CEQA review and these conditions of approval pursuant to Condition 20.~~

42.34. 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 ~~department~~ 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 ~~the applicant~~ Unocal and approved by the RWQCB before excavation.

43. ~~The remedial activities mandated in Clean Up Order No. 98-38 are expected to prevent increase in surface water contaminant concentrations over time. In the event the proposed remedial activities do not prevent increased contaminant concentrations in surface waters, the RWQCB has reserved the right to require the applicant to undertake additional actions to eliminate or reduce to the extent possible, discharges to all surface water as soon as possible. The applicant shall submit the planned actions to the department for review and approval based on consistency with CEQA review and these conditions of approval. [Note: This requirement is addressed in Condition 20.]~~

44.36. 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. ~~Unocal shall monitor the Santa Maria River and surface water bodies near construction activities weekly for turbidity before and during construction activities to establish background levels. Turbidity shall be monitored upstream of the project in the river prior to construction activities to determine background levels. If project activities increase turbidity levels over 20 percent of~~

~~background conditions, 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.~~

43.37. 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.

41.38. 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 areas, equipment and materials storage areas, drilling fluids, and soil stockpiles located at least 100' away from surface water bodies to minimize the potential for releases into surface water. Fueling of vehicles and heavy equipment shall be conducted at staging areas or within bermed areas (e.g., within an enclosed sheetpile cofferdam); and
- 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.

45.39. 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.

~~47.40. Silt fences or other containment devices shall be used in areas where sediment, suspended materials, and settleable materials could be released to surface water. Provisions for these devices should be documented in the Spill Response Plan submitted to the County and other agencies prior to issuance of a grading permit for any/all excavation projects.~~

[Note: This requirement is addressed in Condition 30.]

~~48. Construction best management practices shall be implemented to minimize the potential for accidental release of materials that can cause turbidity, sedimentation, or result in suspended or settleable materials in surface water.~~

[Note: This requirement is addressed in Condition 30.]

~~49. Use state and local agency approved environmental monitors to ensure that all equipment maintenance, including refueling and lubrication, occurs at designated sites and at least 100 ft from the nearest water resource. There shall be no vehicle refueling on the beach unless adequate measures as outlined in the Fueling Contingency Plan are implemented. Additional designations shall be made for washing and cleaning of construction and remedial equipment where waste water and materials can be contained for subsequent removal.~~

[Note: This requirement is addressed in Condition 38.]

~~50. Provide secondary containment or other methods identified in the Fueling Contingency Plan for parked construction equipment and fuel storage vessels to contain any possible leaking products. Proper containment techniques shall be used when cutting or draining pipelines. This includes the deployment of plastic sheeting, sorbent pads and booms, and vacuum trucks. 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 would not impact adjacent water resources.~~

[Note: This requirement is addressed in Condition 38.]

51.41. 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) pProgram for all control and treatment systems to the County Department of and and the RWQCB Regional Board for review and approval prior to issuance of any grading permit for excavation, or Notice To Proceed for any control and/or treatment system. 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.

53.42. At all locations where partial separate-phase plumes will be left in place (L11 and M4 plumes), Unocal shall install HDPE walls shall be installed to prevent down-gradient migration of separate-phase diluent. If monitoring shows migration of product, Unocal shall install ground water extraction wells shall be installed 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.

54.43. Unocal shall monitor behind each sheet pile wall Gground water elevations shall be monitored behind each sheetpile wall to track the depth to ground water, particularly in areas containing separate-phase diluent. These ground water elevations will shall be reported to the RWQCB. Rising ground water elevations behind the sheetpile walls shall be mitigated by lowering the water table. The water table should be lowered by pumping the 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.

55. ~~Rising ground water elevations behind the sheetpile walls shall be mitigated by lowering the water table. The water table should be lowered by pumping the water from the areas where mounding occurs. Since the ground water is contaminated, treatment of the ground water would be required prior to discharge. Pumping and treatment plans shall be submitted to the Regional Board for review and approval.~~
[Note: This requirement is addressed in Condition 43.]

56.44. Ground water flow modeling shall be used in the design phase of the each HDPE wall system to determine the influence of the barriers on ground water flow. The model should shall be constructed and calibrated for natural flow conditions. If the model results indicate that dissolved-phase concentrations will migrate to new areas, then design changes should be made to offset this impact or additional monitoring should be establishedUnocal 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 Regional BoardRWQCB for review and approval and a copy to the departmentCounty Department of Planning and Building prior to installation of HDPE walls.

55.45. The piezometric surfaces of the zones of interest ~~should~~ shall be monitored to assess the magnitude of the drawdown and changes in vertical gradients. At a minimum, monitoring of TPH and water levels ~~and should~~ 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 ~~should~~ shall be evaluated using ground water velocities, not strictly ground water gradients.

58.46. Prior to ~~installation of~~ installing biosparging wells, Unocal shall submit to the RWQCB for review and approval information on the chemical nature of the drilling fluids ~~to the RWQCB for review and approval~~ 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.

61.47. 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 ~~should~~ shall be considered.

~~62. Prior to approval of excavation backfill activities for each excavation project, all treated backfill will be screened and analyzed for TPH and BTEX. Acceptable backfill levels will be established by the RWQCB. All imported backfill shall be screened for potential organic and inorganic pollutants.~~

[Note: This requirement is addressed in Condition 11.]

63.48. The landfarming operation shall be designed and constructed to ~~prevent further degradation of the dune sand aquifer and adjacent water resources. The treatment system shall contain a method for collecting and store~~ prevent further degradation of the dune sand aquifer and adjacent water resources. The treatment system shall contain a method for collecting and store excess water from wetting operations ~~and storing it prior to treatment and disposal.~~

64.49. The landfarm ~~area~~ 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. ~~The barrier system shall contain a method for collecting access water from wetting operations and storing it prior to treatment and disposal.~~

65.50. Prior to installing the biosparging wells, Unocal shall ~~A survey of the inorganic compounds-iron content in soil and ground water shall be conducted prior to installing the biosparging wells~~ conduct a survey of the inorganic compounds-iron content in soil and ground water to identify areas where high concentrations of inorganics iron content

may cause fouling of the air delivery system. The survey ~~should~~ shall be conducted in all areas selected for biosparging and submitted to the RWQCB for review and comment.

66.51. 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.

67.52. Unocal shall take all feasible steps to ~~use methods for reducing~~ reduce and ~~mitigating~~ mitigate the impacts of fouling and scaling in air sparging systems and to dissolve any iron precipitation.

68.53. Prior to issuance of building permits for the biosparging system Unocal shall ~~prepare~~ submit a Biosparging Monitoring and Contingency Plan to the County Department of Planning and Building and the RWQCB for review and approval that ~~should~~ includes provisions to monitor for fouling and scaling of the biosparging system as well as methods for mitigating fouling and scaling once detected. ~~The contingency plan shall include procedures for dealing with biosparging system fouling and scaling. If Use of antibiofouling chemicals are used, they shall first~~ be approved by the RWQCB.

69.54. 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. ~~The channeling analysis shall be presented to the RWQCB for review and comment.~~

70.55. 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 ~~shall be performed~~ 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.

71.56. 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.

72.57. Unocal shall monitor continuously ~~The the air injection rate and volume shall be monitored~~ at each injection blower so that if a release occurs, it can be detected.

73.58. ~~The integrity of the injection well and associated equipment shall be evaluated prior~~ Prior to, and during operation of the injection system air sparging wells, Unocal shall submit to the RWQCB for review and approval an Injection System Maintenance Plan. A maintenance plan shall be established to assure the integrity of the system.

- 74.59. 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 ~~should~~ shall only be injected where nutrient levels are below optimal conditions. Nutrients ~~should~~ shall be injected into ground water at a concentration and rate ~~that will be consumed by indigenous bacteria~~ approved by the RWQCB. Biological degradation rates and nutrient consumption rates ~~should~~ shall be considered. ~~ORCs~~ Oxygen-Releasing Compounds shall not be used without approval from RWQCB, USFWS and CDFG/OSPR.
- 75.60. Unocal shall monitor ~~The consumption rate of the nutrients shall be monitored and use the data used to assist in determining~~ determine if and when additional nutrients ~~are~~ should be injected into the subsurface.
- 76.61. Unocal shall establish a ~~A~~ series of ground water monitoring wells or microwells shall be established to monitor nutrient concentrations in ground water near surface water bodies ~~if as required by the RWQCB. Alternatively, biostimulatory substances could be monitored using microwells.~~ The monitoring wells will serve as an early warning system for biostimulatory substances migrating to surface water via ground water.
- 77.62. 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 ~~either issue a Biological Opinion for Stage 1 of the proposed remediation project with either a Section 7 permit and/or a Section 10 permit~~ 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 Section 10 permit will include a Habitat Protection Plan (HCP) for the entire Phase. The California ~~Dept~~ Department of Fish and Game will issue a permit under Section 2081 ~~permit 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

63. 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 64), and the site-specific requirements of the Habitat Restoration, Revegetation, and Monitoring Plan (Exhibit F, Condition 65). 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 F69, 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.
 - b.c. Create oilfield management zones that make sense ecologically and logistically. Use oil field features (roads, pads, facilities sites) as boundaries and landmarks.

- c.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.
- d.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.
- d)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.
- e)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 65 in Exhibit F.
- f)h. As soon as practicable, restore all remediated or abandoned sites not needed for use during the continuing remediation effort.
- g)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.

h)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.

i)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.

- j). 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.
- l.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 rhotophilum*), beach spectacle-pod (*Dithyrea maritima*), dune mint (*Monardella crispera*), dundelion (*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.

77.64. 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.

65. 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. For Stage 1 activities, a site specific plan as described herein and which includes the protective provisions of Conditions F63, F67, F68, and F69 will be developed by Unocal and approved by the County Department of Planning and Building and the Executive Director of the California Coastal Commission. 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 63). 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 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.
- ⊞ iii Prior remediation, abandonment, infrastructure removal activities and other known disturbances (including grazing) shall be summarized.
- ⊞ iv 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.
- v. 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.

- ☐vi. 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.
- ☐vii. 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.
- ☐viii. 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:

- c. i Adjust or limit construction areas and access routes and construction timing to avoid impact to individuals or colonies of sensitive species.
- d. 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.

- e. 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.

- f.d. 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.

- g-e. 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.
- h-f. 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.
- g. 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.

66. 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, and Surf thistle.
- 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, 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.

- ~~78.67.~~ Every 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.
68. Prior to the initiation of oil spill remediation, oil field abandonment, or infrastructure removal activities which could result in unavoidable impacts to wetlands, the County Planning Commission must approve a Wetland Restoration and Mitigation Plan developed by Unocal in consultation with the Army Corps of Engineer, 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. 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 2 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 shall be included in the Habitat Restoration, Revegetation, and Monitoring Plan described in Condition 65 in Exhibit F.
69. 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.
[Note: Moved from Sandy Beach.]
- ~~82~~.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.
- ~~83~~.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).
- ~~84~~.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 redistribution 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.

90. ~~Conduct yearly surveys (during the suitable season) for California red-legged frogs and western snowy plovers to determine relative population sizes, record evidence of breeding, and record distribution throughout the oil field. With data collected from these surveys, reassess the suitability and effectiveness of proposed mitigation, and, if needed, implement additional mitigation determined to be appropriate by USFWS and San Luis Obispo County. Provisions of the biological opinion from USFWS may require temporary cessation of remediation activities in the area of breeding habitat and create new exclusion zones in order to avoid adverse impacts on threatened or endangered species. 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.~~

[NOTE:— This requirement is addressed in Conditions- 63 and 65.]

SANDY BEACH

- 78.70. ~~Remediation~~ Site characterization, oil spill remediation, and 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.
- 79.71. Under the direction of the Onsite Environmental Coordinator in cooperation with Unocal, ~~An~~ an independent qualified biologist with western snowy plover and California least tern experience approved by the USFWS, CDFG, and San Luis Obispo the County 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. ~~The biologist shall monitor the construction zone and suitable habitat within the project vicinity and shall be empowered through the onsite environmental coordinator (OEC) to halt construction or operations if necessary to avoid injury to individual sensitive species. The environmental monitor shall survey area prior to any disturbances in suitable habitat. The monitor shall be notified immediately if any sensitive species is observed inside the construction work area or within 200 feet of the zone. No other individuals except the biological monitor shall handle or approach any sensitive species.~~

[Note: This is addressed in Condition 65.]

80.72. 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 success during the remediation and abandonment activities and for a duration determined by the USFWS and CDFG after remediation activities have been completed.

~~81. As early as possible during the startup of each excavation project, and as needed for new personnel, a qualified biologist approved by the County, USFWS and CDFG 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 and the protective measures to be implemented for each species.~~

[Note: This is addressed in Condition 65.]

~~82. Traffic shall be confined to existing roads and defined work areas. No equipment, vehicles, or personnel shall enter any biological resource exclusion zone or environmentally sensitive area designated by the environmental monitor, at any time. Lighting shall be shielded and directed away from the beach to the extent feasible. Specific areas of the oil field that are designated by the environmental monitors through the OEC as sensitive species habitat shall be traversed only on foot to protect sensitive biological features.~~

[Note: This is addressed in Condition 65.]

~~83. In the occurrence of a non-compliance with any of these listed protection measures that could result in the injury or death of any listed sensitive species or the unplanned disturbance to sensitive species habitat the biological monitor will notify appropriate authorities through the OEC.~~

84.73. The duration of time each site is disturbed and the total area of disturbance shall be minimized to the extent feasible. Decisions regarding site disturbance may be made in the field by the Environmental Monitors after consultation with RWQCB, USFWS and CDFG and Unocal.

[Note: This is addressed in Condition 81.]

FOREDUNES

~~85. Minimize disturbance to native habitats. For all sites where construction or installation of equipment is to be conducted the following shall apply:~~

- ~~a. Restrict construction activities and equipment to existing roads, pads or otherwise disturbed areas as much as possible.~~
- ~~b. Where access to sites or for pipeline abandonment must be through native habitats, a qualified biologist shall be consulted to 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.~~
- ~~c. Limits of the construction zone will be clearly marked and delineated in the field prior to issuance of grading permit for each excavation project. No unauthorized personnel or equipment will be allowed in native habitats outside the construction limits.~~
- ~~d. Biologically sensitive areas will be clearly marked on grading plans and on site and avoided by personnel and equipment.~~
- ~~e. At remediation sites, abandonment activities shall be completed prior to or concurrent with remediation, avoiding any redistribution 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. Original topography shall be restored to the extent possible, and stabilized if necessary by physical means such as jute netting.~~
[Note: This is addressed in Condition 63.]

~~86. For sites where ongoing access is required (such as for monitoring or maintenance), a qualified biologist approved by the department County Department of Planning and Building, USFWS and CDFG shall be consulted to 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 shall be conducted by a qualified biologist to determine the presence of sensitive species and need for remedial action for environmental impacts, including weed establishment on the disturbed corridor. If it is determined 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 restored to preexisting conditions.~~

[Note: This is addressed in Condition 69.]

~~87.74. For sites where large numbers of individuals of sensitive species, including Unocal shall implement the provisions of Condition 65 with particular attention to Blochman's leafy daisy, and/or dunedelion, occur and remediation impacts beach spectacle-pod, surf thistle and other sensitive species. are unavoidable, salvage and propagate individual~~

~~plants and/or seed and incorporate into the on-site restoration after remediation activities are complete or other measures as required by CDEG.~~

~~88. Prior to completion of Stage 1 remediation, a Revegetation, Habitat Restoration, and Monitoring Plan, developed in consultation with and approved by appropriate agencies, including the department County Department of Planning and Building, USEWS and CDEG, shall be prepared and implemented. The Revegetation, Habitat Restoration, and Monitoring Plan shall apply to remediation sites and sites affected by abandonment activities including well pads, roads, pipeline corridors, equipment pads, tanks all other areas disturbed by oil field operations and shall include all of the elements in Mitigation Measure V(1)(d) pages 5.3-56 of the Final EIR except that, with regard to the topsoil removal requirement, the number of lifts shall be determined by the Planning Director as part of review of the Plan in conjunction with revegetation specialists and other responsible agencies. Pre-project activities such as seed collection, weed treatment, and propagation of species to be transplanted shall commence concurrently with the start of Stage 1 remediation activities.~~

[Note: This is addressed in Condition 65.]

~~89. Prior to issuance of a grading permit for Stage 1 excavation projects, Unocal shall submit a soil stabilization and erosion control plan to the County for review and approval. The Plan shall be compatible with the Revegetation, Habitat Restoration, and Monitoring Plan objectives. Any soil stabilizers identified for erosion control would need to be compatible with native plant establishment and should break down within a reasonable period of time. The erosion control plan should include temporary soil stabilization methods to prevent the loss or movement of soil from clean or contaminated soil stockpiles.~~

[Note: This is addressed in Condition 65.]

~~90. Prior to excavation, construction, installation of equipment, pipeline removal or any other activity associated with the proposed project, a qualified botanist shall survey all proposed construction, staging, and access areas for presence of beach spectacle-pod and surf thistle. Colonies shall be mapped and clearly marked and numbers of individuals in each colony and their condition determined and recorded. Adjust or limit construction areas and access routes, as needed, to avoid impact to individuals of beach spectacle-pod and surf thistle.~~

[Note: This is addressed in Condition 65.]

~~91. Where impacts to these species are unavoidable, develop and implement a salvage, propagation, and replanting program that would utilize both seed and salvaged (excavated) plants constituting an ample and representative sample of each colony of the species that would be impacted. The program plan should 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 program plan would require approval from the County,~~

~~USFWS and CDEG prior to its implementation and activities involving handling of beach spectacle pod and surf thistle would require appropriate permits including a memorandum of understanding from CDEG.~~

Note: This is addressed in Condition 65.]

~~92. The plan shall incorporate provisions for recreating suitable habitat and measures for re-establishing self-sustaining colonies of sensitive plant species on the site. The plan shall include provisions for monitoring and performance assessment including standards that will allow annual assessment of progress, and provisions for remedial action, should the species fail to re-establish successfully.~~

[Note: This is addressed in Condition 65.]

~~93. In addition to restoring suitable habitat and reestablishing colonies of sensitive plant species, such as beach spectacle pod and surf thistle at sites disturbed by remediation and abandonment activities, identify other foredune sites in the Guadalupe oil field where conditions would be suitable for management actions such as control of invasive exotic species or selective planting that could lead to expanded or more secure populations of these species. This would help compensate for temporary loss of habitat during remediation and the uncertainties involved in reestablishment of populations. Population expansion can be accomplished either by facilitating the outward spread of existing colonies or facilitating an increase in density within existing colonies depending upon the specific circumstances. In any measure for population expansion, maintenance of the genetic diversity of beach spectacle pod and surf thistle populations on site must be considered.~~

[Note: This is addressed in Condition 65.]

BACKDUNE AREAS

~~94.75. A qualified biologist shall be onsite during initial site preparation and ground disturbance activities (brush removal, well installation). To the extent feasible, wildlife including sensitive species such as California horned lizard, and silvery legless lizard, and other sensitive species shall be removed from these areas and relocated to suitable habitat as specified in Condition 65, or as directed by the appropriate resource agencies. out of potential danger unless other requirements are established by USFWS and/or CDEG. Lighting required for activities occurring at night shall be shielded and directed downward. Remediation sites shall be regularly monitored throughout the remediation activities to ensure that sensitive species have not re-entered the disturbance zones.~~

Note: This is addressed in Condition 65.]

~~95. Treat area to be disturbed to kill or remove invasive exotic species prior to initiating any remediation or abandonment activity in order to prevent invasive exotic species from spreading out of the existing disturbed area.~~

[Note: This is addressed in Condition 65.]

~~96. As part of remediation and abandonment at disturbed sites, remove foreign materials and equipment, restore topography, and implement restoration measures and revegetation techniques (including sensitive species as appropriate). In areas where the soil may be unsuitable for plant establishment, the unsuitable soil shall be removed.~~
[Note: This is addressed in Condition 65.]

DUNE SWALES

~~97. Based on the most current description of the remediation or abandonment activities for each site, areas of potential impact should be calculated and totaled for the entire project. In consultation with the Corps, County, CDFG and US FWS, Coastal Commission, a dune wetland creation/restoration plan should be developed as part of the Revegetation, Habitat Restoration and Monitoring Plan [Mitigation Measure V1(d)] and implemented to create or restore dune wetlands at a minimum ratio of 2 acres created/restored or enhanced per acre impacted. This plan should also provide for restoration of transitional and upland habitats affected and include methods to restore and enhance native habitats, control non-native species that interfere with restoration, and monitor success of restoration. Monitoring should extend for 5 years or more until performance criteria have been met and it is clear that the restored habitat will be self-sustaining. This measure should be initiated concurrent with the initiation of remediation and abandonment activities.~~
[Note: This is addressed in Condition 68.]

~~98. Where excavation is the proposed remediation treatment, consideration should be given to wetland creation as an alternative to refilling the site with cleaned sand. Site excavation should be minimally sufficient to accomplish the aims of remediation, but could be modified to provide a geometry conducive to the formation of aquatic, wetland, and transition habitats.~~
[Note: This is addressed in Condition 68.]

~~99.76. Pre-project surveys shall be conducted by a qualified biologist throughout the proposed area of disturbance and within 500 feet of suitable habitat to document and remove any sensitive wildlife species including two-striped garter snakes, southwestern pond turtles or other species of concern that are present and relocate them to suitable habitat outside the area of impact. Lighting required for activities occurring at night shall be shielded and directed downward. Remediation sites shall be fenced and regularly monitored to ensure that sensitive species do not enter areas where they would be exposed to hazards. Other specific protective measures may be required by other agencies.~~
[Note: This is addressed in Condition 65.]

~~100. Prior to excavation, construction, installation of equipment or any other activity associated with the proposed project in dune swale or Santa Maria River floodplain habitats, a qualified biologist shall survey all proposed construction, staging, and access areas for~~

~~presence of La Graciosa thistle. Colonies shall be mapped and clearly marked and numbers of individuals in each colony and their condition determined and recorded. Limit construction areas and access routes, as needed, to avoid impacts to individuals or colonies of La Graciosa thistle.~~

[Note: This is addressed in Condition 65.]

~~101. Where impacts to listed species are unavoidable, develop and implement a salvage, propagation, and replanting plan that would utilize both seed and salvaged (excavated) plants constituting an ample and representative sample of each colony of the species that would be impacted. The program should consider perpetuating 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 program would require approval from San Luis Obispo County, USEWS and CDFG prior to its implementation and activities involving handling of La Graciosa thistle would require appropriate permits including a Memorandum of Understanding from CDFG and USEWS.~~

[Note: This is addressed in Condition 65.]

~~102. The plan shall incorporate provisions for recreating suitable habitat and measures for re-establishing self-sustaining colonies of La Graciosa thistle on the site. The plan shall include provisions for monitoring, performance assessment including standards that will allow annual assessment of progress, and provisions for remedial action, should the species fail to re-establish successfully.~~

[Note: This is addressed in Condition 65.]

~~103. In addition to restoring suitable habitat and reestablishing colonies of La Graciosa thistle populations at sites disturbed by remediation activities, identify other dune swale sites suitable for planting with La Graciosa thistle to expand populations. This will help compensate for temporary loss of habitat during remediation and the uncertainties involved in reestablishment of populations. Expansion of the populations of these species may help offset direct or indirect impacts to these species. In any expansion proposal, maintenance of the genetic diversity of La Graciosa thistle populations on site must be considered.~~

[Note: This is addressed in Condition 65.]

77. At sites where red-legged frog habitat is present, the following requirements will be implemented.

93.a. At sites with California red-legged frog habitat, remediation and abandonment activities shall be scheduled to avoid frog breeding season to the maximum extent feasible. Lighting, if required for night time activities, shall be shielded and directed away from frog habitat. 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 ~~unless otherwise allowed~~ or as determined by USFWS. ~~Limit areas of disturbance and duration of activities wherever feasible.~~

94.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 the USFWS survey protocol, February 18, 1997 guidelines,) throughout the proposed area of disturbance and within suitable habitat extending to a distance approximately up to 500 feet away from the remediation area.

95.c. Unocal shall fence Remediation sites within 500 feet of California red-legged frog habitat shall be fenced to exclude California red-legged frogs from the disturbance zone and the provisions of Condition 65 shall be implemented. The disturbance zone shall be thoroughly searched by a qualified biologist approved by San Luis Obispo County and USFWS and holding appropriate permits to handle red-legged frogs if required by USFWS. Captured red-legged frogs shall be relocated to predetermined suitable habitat outside of the construction zone. The size, age class, location of capture, and the relocation site shall be recorded for each individual frog relocated from the site. All non-native predators to the red-legged frog, including crayfish and bullfrogs captured during the relocation efforts, shall be destroyed.

~~107. A qualified biological monitor shall be present on site while remediation and abandonment activities occur in or within 500 feet of suitable California red-legged frog habitat. Biologist shall survey area prior to any disturbances in suitable habitat and remove any frogs within the disturbance area. Red-legged frogs shall be moved to the nearest suitable habitat not affected by activities.~~

[Note: This is addressed in Condition 65.]

108.a. 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.

~~109. After disturbances are complete, the project area shall be restored to replace affected wetland habitat. The entire construction footprint shall be surveyed by a qualified biologist at least two times during the spring following project completion. Surveys shall determine if sensitive species habitat present on site is similar to what was present prior to activities. If red-legged frogs or red-legged frog habitat is not present due to project related impacts, habitat must be created or enhanced to provide suitable conditions for red-legged frogs.~~

[Note: This is addressed in Condition 65.]

~~110. New or restored wetland habitat shall be created to replace impacted habitat (as described under section 5.3.5 V-3 of the FEIR). Restored sites shall be monitored after restoration is complete to ensure that red-legged frogs are using the area in a similar fashion to pre-construction conditions.~~

[Note: This is addressed in Condition 68.]

~~111. In addition to measures V3(a) through V3(c), restore or enhance existing floodplain wetlands as compensation for unavoidable temporal losses in impacted areas by removal of imported fill and associated invasive exotic species such as iceplant.~~

[Note: This is addressed in Condition 112.]

~~112. To minimize mortality to sensitive species, surveys shall be conducted by a qualified biologist approved by San Luis Obispo County, the USFWS and CDEG within the disturbance area to document and remove any individuals of sensitive species.~~

~~Remediation sites shall be fenced and regularly monitored to ensure that sensitive species do not enter areas where they would be exposed to hazards.~~

[Note: This is addressed in Condition 65.]

~~113.78. 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, if the river or lagoon is present in front of the wall at the time of its removal unless otherwise allowed by the USF&WS.~~

~~114.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 not cave-in into the lagoon or river once after the sheetpile and HDPE walls are removed if feasible.~~

~~FIELD-WIDE BIOLOGICAL CONDITIONS~~

[Note: Conditions 115-130 are now addressed in New Field-Wide Biological Conditions 63-69.]

~~115. In addition to Mitigation Measures V3(a) through V3(d) (applicable to the Proposed Action), the following shall be implemented sites to be excavation:~~

~~a. 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.~~

- ~~b. A comprehensive non-native species eradication program shall be undertaken throughout the areas to be excavated and contiguous perimeter areas and pipeline abandonment corridors, commencing prior to excavation/remediation activities.~~
- ~~c. Under the direction of a qualified scientist, weed-free wetland topsoil and native plant materials suitable for translocation shall be salvaged from areas to be excavated, for timely use in the restoration of contiguous wetland and transition habitats.~~
- ~~d. 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.~~

~~116. In addition to Mitigation Measures V3(a) through V3(d) (applicable to the Proposed Action), and V3(e), for sites to be excavated, the following measures should be implemented:~~

- ~~a. Restore or enhance habitat areas in the immediate vicinity of the wetland creation areas in acreages and types appropriate to offset the loss of upland habitat functions and values that would occur as a result of the wetland creation. Where feasible, weed-free topsoil and native plant materials suitable for translocation shall be salvaged from areas to be excavated, under the direction of a qualified scientist, for immediate use in the restoration of contiguous upland and transition habitats. To minimize temporal losses of habitat functions and values the restoration of adjacent habitats should start prior to the excavation activity.~~
- ~~b. Retain uncontaminated excavated sand for use where suitable in restoring topography and habitat altered by oil field remediation or abandonment activities.~~

~~117. Monitoring of dissolved phase diluent on a monthly basis in the created wetlands to ensure detection of exposures approaching potential damage thresholds as determined by the USFWS and CDFG coupled with monitoring of habitat conditions and sensitive wildlife species populations including red-legged frog is required to ensure that inadvertent damage does not occur.~~

~~118. To promote the establishment and persistence of ecologically valuable wetlands and transition habitats where wetland creation is proposed, gentle slopes, averaging 5 percent or less, shall be graded across the transition between wetland and upland habitats. Final elevations in the wetland bottoms shall be low enough to provide permanent surface water in the event of foreseeable drought conditions. Final elevations shall be determined based on monitoring records for the site and the observation of groundwater depths~~

~~during remediation. Wetland habitat recreation will be completed as determined by CDEG, USEWS and/or ACOE.~~

~~119. Monitoring of dissolved phase diluent on a monthly basis in the created wetlands to ensure detection of exposures approaching potential damage thresholds as determined by the USE&WS, coupled with monitoring of habitat conditions and sensitive wildlife species populations including red-legged frog is proposed to ensure that inadvertent damage does not occur.~~

~~120. To promote the establishment and persistence of ecologically valuable wetlands and transition habitats where wetland creation is proposed, gentle slopes, averaging 5 percent or less, shall be graded across the transition between wetland and upland habitats. Final elevations in the wetland bottoms shall be low enough to provide permanent surface water in the event of foreseeable drought conditions. Final elevations shall be determined based on monitoring records for the site and the observation of groundwater depths during remediation. Wetland habitat recreation will be completed as determined by USE&WS and/or ACOE.~~

~~121. Develop and implement a Comprehensive Ecosystem Monitoring and Management Program to be submitted to the department County Department of Planning and Building for review and approval prior to the end of Stage 1. The planning and implementation of this program, especially the exotic species control effort, should start immediately, prior to any additional exploration, monitoring, or remediation activities. Key elements that need to be included in this program include but are not limited to the mitigation measures listed in Measure C1(a) Page 5.3 118-121 of the Final EIR.~~

~~122. To mitigate temporary losses or impairment of habitat function and to comply with the provisions of the LCP and Coastal Act, if UNOCAL gains ownership of the oil field prior to Stage 5 activities, set aside and restore or enhance habitat in nearby areas that would not be affected by onsite remediation activities and that support resources (e.g., coastal dune scrub communities, coastal wetlands) subject to cumulative adverse effects on site. Develop site-specific habitat restoration/enhancement plans and cooperative agreements (such as a conservation agreement) with the land owner or land management entity that controls the property to allow for protection of the habitat in perpetuity. This would ensure the availability of substitute resources to compensate for lost use during the restoration phase. The plans shall be submitted to San Luis Obispo County, USEWS, CDEG and the California Coastal Commission for review and approval prior to the end of Stage 2 remediation activities.~~

~~123. Maintain a current database of state/federally listed rare, threatened or endangered species present in the oil field and seasonal/year round access restrictions or closures required for threatened/endangered species protection. 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.~~

~~124. Clearly mark any particularly vulnerable locations of rare, threatened, or endangered species in the 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).~~

~~125. Confine all off-road vehicular use to designated construction areas and access corridors. These shall be surveyed by qualified biologists 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 (suggest not using pin flags because of the residual rusty wire). 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.~~

~~126. ATV use shall be minimized and confined 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 OEC. Access routes to sites not accessible by designated corridors shall first be surveyed by a qualified biologist and approved by the OEC. 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 by a qualified biologist to monitor their condition, including exotic species establishment, and absence of rare, threatened, or endangered species from the route (e.g., new establishment of beach spectacle pod). Establishment of exotic species along the corridor shall be monitored and eradication efforts implemented if the corridor is facilitating spread of invasive exotic species into areas where they are not already well-established.~~

~~127. Conduct a research program designed to foster the recovery of sensitive species affected by the project. The program should include development and testing of effective methods to propagate individuals and expand populations of these species, specifically including beach spectacle pod, La Graciosa thistle, and Surf thistle. The plan should include appropriate experimental designs and monitoring to objectively compare methods and results of testing, and should be disseminated among restoration and habitat management practitioners and the scientific community. The program plan shall be approved by San Luis Obispo County, USFWS and CDEG prior to its implementation. The responsible party would be required to enter into a memorandum of understanding with CDEG and USFWS prior to implementing plan elements involving state-listed species including beach spectacle pod, La Graciosa thistle, and Surf thistle.~~

- ~~128. Conduct yearly surveys (during the suitable season) for California red-legged frogs and western snowy plovers to determine relative population sizes, record evidence of breeding, and record distribution throughout the oil field. With data collected from these surveys, reassess the suitability and effectiveness of proposed mitigation and, if needed, implement additional mitigation determined to be appropriate by USFWS and San Luis Obispo County. Provisions of the biological opinion from USFWS may require temporary cessation of remediation activities in the area of breeding habitat and create new exclusion zones in order to avoid adverse impacts on threatened or endangered species. 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.~~
- ~~129. Conduct compensatory mitigation, including habitat restoration or enhancement (onsite and/or offsite), for temporary habitat losses and disturbances to populations as recommended and approved by USFWS, CDEG, San Luis Obispo County, and California Coastal Commission.~~
- ~~130. Prior to the issuance of a construction permit for each Stage, an exclusion plan shall be prepared either by the applicant and submitted to the department County Department of Planning and Building for review and approval, or by the department County Department of Planning and Building. 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.~~

MARINE WATER QUALITY

[Note: The Marine Water Quality Section Had Been Combined With the Surface and Groundwater Quality Section]

- ~~131. Offshore emergency oil spill cleanup equipment, including skimmers and sorbent booms, shall be staged onsite during remediation and abandonment activities at sites 5X, A2A, A5A, 8X, A8, C7, and C8. Prior to conducting any remediation activities, Unocal shall submit to the County Planning and Building and the Executive Director of the Coastal Commission a CDEG/OSPR approved final oil and fuel spill contingency plan that include but is not necessarily limited to the following provisions:~~
- ~~a. Identification of HAZWOPER-certified personnel to deploy emergency response equipment;~~

- ~~• A wildlife contingency plan that specifies measures to deter animals from the remediation sites and provide care for animals that became oiled or injured during remediation activities;~~
- ~~• Offshore emergency oil spill cleanup equipment, including skimmers and boom, shall be staged onsite during remediation activities at sites 5X, A2A, A5A, 8X, A8, C7 and C8;~~
- ~~• Staging areas, equipment and materials storage areas, refueling areas and soil stockpiles shall be located at least 100 ft from any surface water body. Staging areas shall be constructed so fuel release/spills can be contained and recovered~~
- ~~• Unocal shall immediately notify CDEG/OSPR, the County Planning and Building Department, the RWQCB, the USEWS 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 CDEG/OSPR or the USEWS. The foam and visible film shall be removed regularly if feasible (2-4 times per day), and contained for disposal~~
- ~~• If a release into the Santa Maria River or ocean occurs, Unocal shall with oversight by the independent onsite environmental monitor 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 CDEG/OSPR and the RWQCB as requested.~~
[Note: This requirement is addressed in Condition 38.]

~~132. Weekly sampling of interstitial waters, sediments and in the water column shall be collected and analyzed at sites within the surf zone immediately adjacent to the 5X plume on a weekly basis during the 5X excavation. If it is determined that remediation activities are causing marine discharge of hydrocarbons, the activities will cease until it is determined how the activities can be conducted without causing additional discharges.~~
[Note: This requirement is addressed in Condition 29.]

~~133. Excavation and grading activities near the water's edge in the supratidal zone of the 5X Area shall be limited to periods when exceedingly high tides and waves are not anticipated unless the safety officer determines otherwise.~~

~~134. Excavation and other construction activities near the shoreline at the 5X area shall be limited to periods when outflow from the lower Santa Maria River does not have the potential to negatively affect the project.~~

~~135. If a marine spill occurs, marine toxicity tests shall be conducted on the discharged contaminants and compared with Criterion 3. This measure would help evaluate the~~

~~potential impact of the spill on marine resources and would guide response efforts.~~
[Note: This requirement is addressed in Condition 39.]

- ~~136. Prior to implementation remediation at sites adjacent to the coast, a marine oil spill containment and cleanup contingency plan shall be developed. The contingency plan should specify HAZWOPER-certified personnel to deploy emergency response equipment. It should also include a wildlife contingency plan that specifies measures to deter marine animals from the remediation site and to provide care for animals that become oiled or injured during remediation activities.~~
[Note: This requirement is addressed in Condition 38.]

PUBLIC SAFETY

- ~~137.79.~~ 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.
- ~~138.80.~~ 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.
- ~~139.81.~~ Unocal shall implement erosion control and sand augmentation programs ~~to address where physical barriers that extend above ground level, or that have the potential to extend above ground level due to erosional events, that will not be removed within the duration of the cleanup project~~ until the barriers are removed pursuant to Condition 80.
- ~~140.82.~~ 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.
- ~~141.~~ All sheetpile walls shall be designed with appropriate safety factors to account for earth pressures, hydraulic head, earthquake loading, equipment loading, and other design features, as appropriate. The seaward edge of any sheetpile wall used to contain beach excavation activities shall be designed to withstand the maximum 100-year event wave runup height. FEMA has identified a 100-year wave runup height of 18 ft for Guadalupe. The maximum 100-year seasonal storm conditions shall be based, at a minimum, on maximum 100-year seasonal wave forces and the maximum wave conditions shall be determined as follows:

- ~~• The peak astronomical tide will be taken as the predicted high tide level for the period that the sheetpile shall be in place which corresponds to a 10% exceedance probability;~~
- ~~• A "residual" water level (taking into account storm surge, atmospheric pressure and El Nino) will be added to this astronomical tide level, based on an analysis of predicted vs. recorded tide levels for a number of severe storms which have affected the Guadalupe Beach area using a 10% exceedance probability; and~~
- ~~• Maximum seasonal beach scour.~~

Engineering designs shall be prepared by a licensed civil engineer with experience in coastal processes.

[Note: This requirement is addressed Conditions 25 and 26.]

- ~~142. Prior to issuance of a construction permit for Stage 2 remediation activities, An oil spill response plan, which includes procedures for a worst case spill, shall be developed to the satisfaction of the California Department of Fish and Game, and oil spill response equipment, as specified in the approved oil spill response plan, shall be maintained to control and cleanup any petroleum hydrocarbon releases. Enough oil spill response equipment shall be maintained onsite to allow for an initial response for the first two hours until an oil spill cooperative can reach the site.~~

[Note: This requirement is addressed in Condition 38.]

- ~~143. A staging area, located at least 100 feet from any surface water source, should be established for the storage of equipment and materials for the project. Fueling of vehicles and storage of heavy equipment should be in the staging area only unless other areas are identified in the Fueling Contingency Plan. The staging area should be constructed so fuel releases can be contained for recovery.~~

[Note: This requirement is addressed in Condition 38.]

- ~~144. A fuel spill contingency plan should be developed to respond to fuel spills during the project. The contingency plan should include procedures and protocols for preventing fuel spills as well as for responding to fuel spills.~~

[Note: This requirement is addressed in Condition 38.]

VISUAL RESOURCES

- ~~145. For the B12/C12 Site, complete backfilling and dune stabilization measures, including distribution of stockpiled topsoil, detritus and vegetation, within the respective construction periods as required by the CAO and these conditions.~~

- ~~146.83. 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 process for choosing a color shall be as described for the other facilities noted.~~ The colors for each site shall be approved by the County Department of Planning and Building.

~~147. Stabilize and revegetate areas where vegetation has been removed.~~

[Note: This requirement is addressed in Condition 65.]

~~148.84. Unocal shall to the maximum extent feasible Sschedule excavations that are located within the viewshed of Rancho Guadalupe County Park such that construction activities occur during periods of lowest visitation (December – March) to Rancho Guadalupe County Park to the maximum extent feasible.~~

~~149. Areas of wind scoured bare sand, such as borrow sites, shall be chosen for stockpiling excavated sand, topsoil, and raked debris and vegetative matter to the maximum extent feasible.~~

[Note: This requirement is addressed in Condition 10.]

AIR QUALITY

The San Luis Obispo APCD is directly addressing project related air quality mitigation measures through ~~their~~ its own permitting process. Final mitigation measures will be established through the SLOAPCD permit process.

~~150.85.~~ A Dust Control Plan shall be submitted to the ~~San Luis Obispo~~ 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.

~~151.86.~~ 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 should~~ shall include at a minimum the following components at a minimum:

- 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 of 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 ~~Avila Beach~~ Guadalupe; or other similar strategies. ~~Use of~~ 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.

~~152. All construction equipment shall be maintained in tune as per manufacturers specifications to reduce ROG, NO_x and PM₁₀ emissions. 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.~~

~~153.87.~~ 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.

~~154.88. Emissions offsets shall be provided for pollutants that are anticipated to exceed the District's annual CEQA significance thresholds~~ Unocal shall develop an Emission Reduction Program to be approved by SLOAPCD. The structure and nature of the offsets program shall be reviewed and approved by the SLOAPCD. Potential offset sources emission reduction projects should be located as close to the former Guadalupe Oil field site as possible including potential ~~offset sources~~ emission reduction projects in northern Santa Barbara County in the vicinity of Santa Maria and the City of Guadalupe.

~~155.89.~~ 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_x, SO₂, and PM₁₀ emissions due to the operation of the thermal unit. Installation of a SOx scrubber would reduce SOx emissions by up to 98 percent and installation of NOx control such as SCR or other catalytic reduction systems, if feasible, should be considered. ~~Applicant~~ Unocal shall coordinate with ~~the San Luis Obispo~~ SLOAPCD for the best approach. A program of monitoring shall be established to demonstrate that the TDU is operating effectively.

- ~~156.90.~~ 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.
- ~~157.91.~~ Implement the Unocal shall use of 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. The area to cover should include soil stockpiles, transport trucks and excavation areas when not working.
- ~~158.92.~~ Prior to issuance of a construction permit for any Stage, the applicant Unocal shall prepare an Odor Control Plan to be approved by the SLOAPCD. The plan should 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 District SLOAPCD notification. This condition shall be included in construction plans submitted to the County Department of Planning and Building and implemented by the applicant Unocal prior to the issuance of construction permits.
- ~~159.93.~~ The applicant 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

- ~~160.94.~~ 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.

~~161.~~95. Unocal shall ~~p~~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. ~~This management~~The Traffic Control ~~p~~Plan shall be ~~finalized and approved by the appropriate agencies~~County Engineering Department.

~~162.~~96. Roads damaged by project-related truck traffic shall be properly restored to their pre-project condition. A pre-project survey of the proposed routes shall be conducted in order to assess the condition of the roads prior to the remediation and abandonment activities. Road damage monitoring shall be conducted throughout the project. ~~The Applicant~~Unocal shall pay for road restoration.

NOISE CONTROLS

~~163.~~97. 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.

~~164.~~98. 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).

~~165.~~99. 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).

~~166.~~100. Mufflers on all internal combustion and vehicle engines shall be maintained to reduce noise to the maximum extent feasible.

~~167.~~101. Noise attenuation barriers shall be installed, as necessary.

~~168.~~102. All back-up beepers on equipment shall be turned down to the minimum allowed by OSHA.

LAND USE & RECREATION

~~169.~~103. 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 ~~should~~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

~~170.~~104. 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 ~~San Luis Obispo~~ 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 ~~the applicant~~ Unocal. If the materials are determined to be significant under CEQA Appendix K criteria, ~~the applicant~~ 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 ~~the applicant~~ Unocal.

~~171.~~105. 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 ~~the applicant~~ Unocal. If the materials are determined to be significant under CEQA Appendix K criteria, ~~the applicant~~ 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 ~~the applicant~~ Unocal.

PUBLIC SERVICES

~~172.~~106. Prior to issuance of a construction permit for Stage 1 remediation activities, ~~the applicant~~ 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 ~~should~~ shall include (a) the destination of recycled materials, ~~and how much~~ (b) the amount of ~~the materials are being to be~~ recycled and ~~how much are~~ (c) the amount of materials disposed of as solid waste.

~~173.~~107. Emergency response providers shall be notified of remediation and abandonment activities, locations, and dates prior to implementation.

FENCING

~~174.~~108. Prior to the issuance of a construction permit for Stage 2, ~~the applicant~~ Unocal shall submit ~~a fencing plan to the department~~ 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 ~~to prohibit the use of the area by cattle~~. The fencing shall be installed at the end of each Stage of remediation and abandonment activities in each wetland area.

EASEMENTS

~~175.109.~~ Prior to the lapse of existing offers ~~Offer of dedication to~~ Dedicate Instrument No. 23795, ~~the applicant~~ Unocal shall offer for dedication to a public agency or private conservation organization approved by the ~~Director~~ 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.

~~176.110.~~ Prior to the lapse of existing offers ~~Offer of dedication 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 ~~shall be dedicated~~ 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, including appropriate restrictions on 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 secure the cooperation of a public agency or private non-profit corporation approved by the Director and the Coastal Commission to accept the existing offers of dedication for lateral access and biological protection prior to 2001. If an acceptable entity is not available to accept the offers of dedication and as a result, the offers lapse, then Unocal, prior to issuance of a construction permit for Stage 5, shall fund the~~

~~purchase of similar easements covering a similar land area in the dunes complex or vicinity.~~

~~177. If Unocal, prior to issuance of a construction permit for Stage 5, gains ownership of the oil field, the applicant shall offer for dedication to a public agency or private conservation organization approved by the Director, an open space easement covering the entire environmentally sensitive habitat area consistent with the Coastal Act and the LCP. Dedication of this easement, with acceptable indemnification agreement, shall satisfy EEF funding requirements.~~

~~If Unocal, prior to the issuance of a permit for Stage 5, does not own the site, the applicant may, in lieu of dedicating on-site easements for protection of environmentally sensitive habitats, instead fund the purchase of off-site conservation easements containing similar environmentally sensitive habitats in the general vicinity of the project site. In addition to funding purchase of easements, the applicant may also fund restoration and revegetation projects elsewhere in the dunes complex. The funding for these easements and restoration projects shall be included in the satisfaction of the EEF requirements and shall not exceed \$6,153,500.~~

Note: Condition 177 was mistakenly retained in the County's permit. At the September 22, 1998 Board of Supervisor's hearing, the County replaced Condition 177 with the language that is County Condition 179.]

PUBLIC SHORELINE ACCESS

~~178.~~ 111. Prior to the issuance of a construction permit for Stage 1, the applicant 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

112. 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.

~~179. 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 Class I environmental impacts as identified in the certified Final EIR. CEQA requires decision makers to find that benefits of a project override the negative environmental impacts of the project.~~

~~Prior to the issuance of a construction permit for Stage 5, Unocal shall offer in order of preference either: (1) offer an open space easement for the area of the project site designated as an environmentally sensitive habitat; or (2) acquire or cause the acquisition of perpetual protective easements over some combination of foredune environmentally sensitive habitats, backdune environmentally sensitive habitats and/or wetland environmentally sensitive habitats in the Guadalupe Dunes Complex that is the functional biological equivalent of the area of the project site designated as an environmentally sensitive habitat area, as determined by and agreed upon by an environmental expert and offer to dedicate such easements to qualified non-profit conservation organizations or (3) in the discretion of the Board of Supervisors, pay in mitigation to the County, a sum of money equal to the value of such open space easement (valued as though the subject site was in a pristine condition) which value shall be agreed upon between Unocal and the County 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, which fund will be used by the County for the purchase and/or restoration of property in the Guadalupe-Nipomo Dunes Complex.~~

~~Unocal and the County acknowledge that this condition is subject to potential modification by the Board of Supervisors pursuant to Coastal Zone Land Use Ordinance section 23.02.038.~~

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, 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 an open space and habitat protection easement for the purpose of visual resource protection, habitat protection, and managed public access, including appropriate restrictions on 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. 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 and habitat protection 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

113. 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

114. 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.

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.
- 1.2. 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.
- 2.3. To make changes to the approved project described ~~above~~ in the Workplan, ~~the applicant~~ 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 ~~the applicant~~ Unocal throughout the project.

PHASING SCHEDULE

- 3.4. 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

- 4.5. Abandonment activities shall commence prior to or concurrently with Stage 1 remediation projects. ~~The applicant~~ Unocal shall request issuance of a Notice To Proceed from the ~~department~~ County Department of Planning and Building after compliance with all pre-project conditions.

SURFACE RESTORATION AND REVEGETATION

- 5.6. ~~Prior to the completion of Stage 1 remediation activities,~~ Unocal shall submit a Site Restoration and Revegetation Plan for Stage 1, focusing primarily on Stage 1 activities, coordinated with the plan required in Condition 46 of Exhibit G to the Director for review and approval. ~~New plans will be provided for subsequent stages based on a schedule to be approved as part of the first stage.~~ 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 ~~be reviewed for consistency with the Final EIR and shall address, at a minimum, include, but not necessarily be limited to,~~ the following ~~elements~~ 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. ~~The Plan shall presume that all man-made features established on the site for oil field purposes shall be removed and the areas recontoured, restored and revegetated, unless it can be shown that justification exists to allow any features to remain in place.~~ 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 65 in Exhibit F).
- e. Surface restoration shall be coordinated with the Revegetation, Habitat Restoration and Monitoring Plan.
- f. ~~Coordination~~ Surface restoration and revegetation activities shall be coordinated with the property owner.
- d. ~~Coordination with the Revegetation, Habitat Restoration and Monitoring Plan.~~
- g. Consultation with appropriate agencies.
- h. ~~Acreage~~ 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.
- g. ~~A minimum five year monitoring and maintenance plan starting from the end of Phase I remediation.~~

~~The Plan, as ultimately approved by the department, Coastal Commission, CDFG and USFWS shall be implemented in phases as remediation and abandonment activities on the site allow.~~

PROJECT MONITORING

- 6.7. Prior to the commencement of abandonment activities, the applicant Unocal shall fund a qualified contractor 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 the applicant 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 M monitor shall prepare a specific mitigation monitoring tracking plan and submit it to the department County Department of Planning and Building, the RWQCB, the Executive Director of the Coastal Commission and other permitting agencies for review and approval.
- 7.8. Prior to the commencement of abandonment activities, the applicant 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. RWQCB 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.
- ~~9.10. A degradable binder shall be applied with the approval of the county and other responsible agencies to the sand surface to form a temporary, low strength crust 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.
- ~~10.11. 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~~
Prepare an analysis for each pipeline to be abandoned that identifies 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.
- ~~11.12. To minimize vibrations Unocal shall use the lightest suitable equipment shall be used for activities near steep slopes to minimize vibrations.~~
- ~~12.13. 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.~~
- ~~13.14. 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.~~

- 14.15. 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.
- 15.16. 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 ~~monitor~~. 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.
- 16.17. ~~The project~~Unocal shall consult with a qualified geologist approved by the County Department of Planning and Building and the Executive Director of the Coastal Commission ~~must be consulted~~ 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.
- 17.18. 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. ~~If required by the department, biological surveys and monitoring prior to and during abandonment of facilities and pipelines in these areas shall be conducted.~~
- 18.19. All bell hole excavations and stockpile areas must be restored to pre-construction contours and revegetated to stabilize the areas pursuant to Conditions 64 and 65 of Exhibit F.
- 19.20. Bare sandy areas shall be revegetated immediately after facilities have been removed and grading has taken place.
- 20.21. Any ~~new temporary or permanent~~ 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

~~The U.S. Fish & Wildlife Service will either issue a Biological Opinion for Stage 1 of the proposed remediation project or will review and approve a Habitat Conservation Plan (HCP) for the entire Phase. It is the intent of these conditions to not be in conflict with the approved HCP. However, in instances where these conditions or the provisions of the Biological Opinion and/or HCP are more stringent, the more stringent conditions shall apply. If these conditions are found to be in conflict with the approved HCP or Biological Opinion, then the approved HCP and/or~~

~~B.O. shall prevail.~~

[This is addressed in Section F — Onshore Biological Resources.]

22. Unocal shall implement all Conditions under the heading Onshore Biological Resources in Exhibit F (Conditions 63 – 78).

~~21. For areas where pipelines are proposed for removal, minimize the disturbance corridor as much as feasible. Avoid sensitive biological features such as colonies of sensitive plants, large shrubs, or others identified during preconstruction surveys by driving around them or selecting a different access route where appropriate. Where vegetation is disturbed by pipeline lifting or dragging, push vegetation back in place returning roots to soil immediately after pipeline removal to facilitate revegetation.~~

[This is addressed in Exhibit F Condition 65.]

~~22. Remediation and abandonment activities 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 USEWS.~~

[This is addressed in Exhibit F Conditions 65 and 70.]

~~23. A qualified biologist with western snowy plover and California least tern experience approved by the USEWS and San Luis Obispo County shall visit the site regularly as determined by the USEWS throughout the construction phase and immediately prior to abandonment activities to ensure that all practicable measures are being employed to avoid incidental disturbance of sensitive species and sensitive species habitats. The biologist shall monitor the construction zone and suitable habitat within the project vicinity and shall be empowered through the onsite environmental coordinator (OEC) to halt construction or operations if necessary to avoid injury to individual sensitive species. The environmental monitor shall survey area prior to any disturbances in suitable habitat. The monitor shall be notified immediately if any sensitive species is observed inside the construction work area or within 200 feet of the zone.~~

[This is addressed in Exhibit F Condition 79.]

~~24. Western snowy plover and California least tern populations shall be monitored by a qualified biologist to determine breeding success during the remediation and abandonment activities and for a duration determined by the USEWS after remediation activities have been completed.~~

[This is addressed in Exhibit F Condition 80.]

~~25. As early as possible during the startup of abandonment activities, and as needed for new personnel, a qualified biologist approved by the County 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 and the protective measures to be implemented for each species.~~
[This is addressed in Exhibit F Condition 69.]

~~26. Traffic shall be confined to existing roads and defined work areas. No equipment, vehicles, or personnel shall enter any biological resource exclusion zone or environmentally sensitive area designated by the environmental monitor, at any time. Specific areas of the oil field that are designated by the environmental monitors through the OEC as sensitive species habitat shall be traversed only on foot to protect sensitive biological features.~~
[This is addressed in Exhibit F Condition 69.]

~~27. In the occurrence of a non-compliance with any of these listed protection measures that could result in the injury or death of any listed sensitive species or the unplanned disturbance to sensitive species habitat the biological monitor will notify appropriate authorities through the OEC.~~
[This is addressed in Exhibit F Condition 69.]

~~28. The duration of time each site is disturbed and the total area of disturbance shall be minimized to the extent feasible.~~
[This is addressed in Exhibit F Condition 69.]

~~29. Minimize disturbance to native habitats. For all sites where construction or installation of equipment is to be conducted:~~
[This is addressed in Exhibit F Condition 69.]

~~a. Restrict construction activities and equipment to existing roads, pads or otherwise disturbed areas as much as possible.~~
[This is addressed in Exhibit F Condition 69.]

~~b. Where access to sites or for pipeline abandonment must be through native habitats, a qualified biologist approved by the County shall be consulted to 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.~~
[This is addressed in Exhibit F Condition 69.]

~~30. Limits of the construction zone will be clearly marked and delineated in the field. No unauthorized personnel or equipment will be allowed in native habitats outside the construction limits.~~
[This is addressed in Exhibit F Condition 69.]

~~a. Biologically sensitive areas will be clearly marked on grading plans and on site and avoided by personnel and equipment.~~
[This is addressed in Exhibit F Condition 69.]

~~b. At remediation sites, abandonment activities should be completed prior to or concurrent with remediation, avoiding any redistribution following the completion of remediation. Following on-site remediation activities, foreign material (rock fragments, asphalt, abandoned equipment and debris) should be removed from surface soils. Original topography should be restored to the extent possible, and stabilized if necessary by physical means such as jute netting.~~

[This is addressed in Exhibit F Condition 63.]

~~c. For areas where pipelines are proposed for removal, minimize the disturbance corridor as much as feasible. Avoid sensitive biological features such as colonies of sensitive plants, large shrubs, or others identified during preconstruction surveys by driving around them or selecting a different access route where appropriate. Where vegetation is disturbed by pipeline lifting or dragging, push vegetation back in place returning roots to soil immediately after pipeline removal to facilitate revegetation.~~

[This is addressed in Exhibit F Condition 65.]

~~31. Prior to excavation, construction, installation of equipment, pipeline removal or any other activity associated with the proposed project, a qualified botanist shall survey all proposed construction, staging, and access areas for presence of beach spectacle-pod and surf thistle. Colonies shall be mapped and clearly marked and numbers of individuals in each colony and their condition determined and recorded. Adjust or limit construction areas and access routes, as needed, to avoid impact to individuals of beach spectacle-pod and surf thistle.~~

[This is addressed in Exhibit F Condition 65.]

~~32. Where impacts to these species are unavoidable, develop and implement a salvage, propagation, and replanting program that would utilize both seed and salvaged (excavated) plants constituting an ample and representative sample of each colony of the species that would be impacted. The program plan should 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 program plan would require approval from San Luis Obispo County and CDFG prior to its implementation and activities involving handling of beach spectacle-pod and surf thistle would require appropriate permits including a memorandum of understanding from CDFG. The plan shall incorporate provisions for recreating suitable habitat and measures for re-establishing self-sustaining colonies of beach spectacle-pod and surf thistle on the site. The plan shall include provisions for monitoring and performance assessment including standards that will allow annual assessment of progress, and provisions for remedial action, should the species fail to re-establish successfully.~~

[This is addressed in Exhibit F Condition 65.]

~~34. In addition to restoring suitable habitat and reestablishing colonies of beach spectacle-pod and surf thistle at sites disturbed by remediation and abandonment activities, identify other foredune sites in the Guadalupe oil field where conditions would be suitable for management actions such as control of invasive exotic species or selective planting that could lead to expanded or more secure populations of these species. This would help compensate for temporary loss of habitat during remediation and the uncertainties involved in reestablishment of populations. Population expansion can be accomplished either by facilitating the outward spread of existing colonies or facilitating an increase in density within existing colonies depending upon the specific circumstances. In any measure for population expansion, maintenance of the genetic diversity of beach spectacle-pod and surf thistle populations on site must be considered.~~

[This is addressed in Exhibit F Condition 112.]

~~35. At sites with California red-legged frog habitat, remediation and abandonment activities shall be scheduled to avoid frog breeding season to the maximum extent feasible. Lighting, if required for night-time activities, shall be shielded and directed away from frog habitat. No activities shall occur within 200 feet of suitable California red-legged frog breeding habitat from January 1 to September 15 unless otherwise allowed by USEWS. Limit areas of disturbance and duration of activities wherever feasible.~~

[This is addressed in Exhibit F Condition 85.]

~~36. A qualified biological monitor shall be present on site while remediation and abandonment activities occur in or within 500 feet of suitable California red-legged frog habitat (or distance as required by USEWS). Biologist shall survey area prior to any disturbances in suitable habitat and remove any frogs within the disturbance area. Red-legged frogs shall be moved to the nearest suitable habitat not affected by activities.~~

[This is addressed in Exhibit F Condition 85.]

~~37. Nighttime surveys for California red-legged frogs shall be conducted twice per week for the duration of construction activities in the vicinity of red-legged frog habitat to ensure that red-legged frogs are not entering the work area.~~

[This is addressed in Exhibit F Condition 85.]

~~38. Foreign materials (asphalt, concrete, gravel, diatomaceous shale, imported soil) shall be removed from all pads and facilities sites and these shall be restored in an effort to offset the temporal losses of native habitat functions and values during remediation and restoration and as a partial mitigation for cumulative on-site habitat degradation. Sites not needed for use during the remediation effort shall be restored early during the remediation process to maximize the benefits from the restoration. Crude oil used to stabilize slopes can 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, weed control, and habitat~~

~~restoration activities.~~

[This is addressed in Exhibit F Condition 63.]

~~39. Maintain a current database of state/federally listed rare, threatened or endangered species present in the oil field and seasonal/year round access restrictions or closures required for threatened/endangered species protection. 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.~~

[This is addressed in Exhibit F Condition 69.]

~~40. Clearly mark any particularly vulnerable locations of rare, threatened, or endangered species in the 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).~~

[This is addressed in Exhibit F Condition 69.]

~~41. Confine all off-road vehicular use to designated construction areas and access corridors. These shall be surveyed by qualified biologists 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 (suggest not using pin flags because of the residual rusty wire). 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.~~

[This is addressed in Exhibit F Condition 69.]

~~42. A Revegetation, Habitat Restoration, and Monitoring Plan, developed in consultation with and approved by appropriate agencies, including the County and CDEG, shall be prepared and implemented prior to the issuance of a construction permit for Stage 2. The Revegetation, Habitat Restoration, and Monitoring Plan shall apply to the entire site and is required in conjunction with the Coastal Zone Land Use Ordinance section 23.08.174 (e) including remediation sites, sites affected by abandonment activities and all other areas of the site previously used for oil production and associated activities and shall include the following:~~

[This is addressed in Exhibit F Condition 65.]

~~☐ Treat area to be disturbed to kill invasive exotic species and limit their seed production during the growing season prior to initiating any activity with the objectives of (1) preventing invasive exotic species from spreading out of the disturbance area and (2) removing weed sources from the salvaged topsoil.~~

[This is addressed in Exhibit F Condition 63.]

~~☐ For areas where vegetation and soil are to be removed, salvage and replace topsoil that is reasonably weed-free. Use two lifts, the first to salvage the seed bank and the~~

~~second to salvage soil biota in the root zone. Save in two separate covered stockpiles close to the project site. Replace accordingly after final reconfiguration of disturbed areas.~~

[This is addressed in Exhibit F Condition 65.]

- ~~☐ Replant with native species propagated from locally collected (within the oil field) seed or cuttings, including any sensitive species that would be impacted during construction activities.~~

[This is addressed in Exhibit F Condition 65.]

- ~~☐ Incorporate monitoring procedures and minimum performance criteria to be satisfied for revegetation and erosion control. Frequency of monitoring and sampling shall be specified for each parameter to be monitored. Identify appropriate remedial measures for implementation if the performance criteria are not met. Monitoring program performance criteria and remedial action need to consider the uncertainties of revegetation and restoration of dune habitats and sensitive plant species. Monitoring should extend for 5 years or more until performance criteria have been met and it is clear that the restored habitat will be self-sustaining.~~

[This is addressed in Exhibit F Condition 65.]

- ~~☐ Invasive exotic species should be controlled throughout the site for a minimum of 5 years or longer until performance criteria have been met, during which time the progress of revegetation should be monitored through surveys conducted at least twice annually as specified. Species to be controlled include veldt grass, pampas grass, beach grass, ice plant (*Carpobrotus spp.*), *conicosia*, *Senecio elegans*, *giant reed (Arundo)*, and *tamarisk*.~~

[This is addressed in Exhibit F Condition 63.]

- ~~☐ Prior to final approval, the Plan shall also incorporate measures to restore populations and habitat conditions for sensitive, rare, threatened, and endangered plant species (including those specified in measures V1(c), R2 (a-d), R3 (a-d), and related measures for other habitats (including measures specified in V2(a-b), V3(a-d), C1(a-b), and C2(a-e)).~~

[This is addressed in Exhibit F Condition 63.]

- ~~43. Prior to the issuance of a construction permit for Stage 2, prepare and implement a soil stabilization and erosion control plan approved by San Luis Obispo County that is compatible with the Revegetation, Habitat Restoration, and Monitoring Plan objectives. Any soil stabilizers identified for erosion control would need to be compatible with native plant establishment and should break down within a reasonable period of time. The erosion control plan should include temporary soil stabilization methods to prevent the loss or movement of soil from clean or contaminated soil stockpiles.~~

[This is addressed in Exhibit F Condition 64.]

AIR QUALITY

44.23. 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.

~~The applicant~~ Unocal shall prepare, to the satisfaction of the SLOAPCD, an Asbestos Management Plan showing compliance with the applicable CFR requirements. The Plan ~~should~~ 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 ~~P~~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.

45.24. 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 ~~should~~ shall be reviewed by the SLOAPCD prior to initiation of abandonment activities.

ENVIRONMENTAL ENHANCEMENT FUNDEASEMENT

46.25. The Class I impacts of the past and proposed clean up and site characterization projects require further mitigation pursuant to CEQA, the ~~e~~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.

~~Prior to the issuance of a construction permit for Stage 5, Unocal shall either offer a open space easement for the area of the project site designated as an environmentally sensitive habitat; or shall contribute funding to an Environmental Enhancement Fund in the amount of \$6,153,500 for the establishment of protective easements and restoration projects in environmentally sensitive habitats in the vicinity of the project. See Condition 175 of Exhibit F for an explanation of how the EEF will be used. Unocal shall implement Condition 112 of Exhibit F.~~

ENFORCEMENT

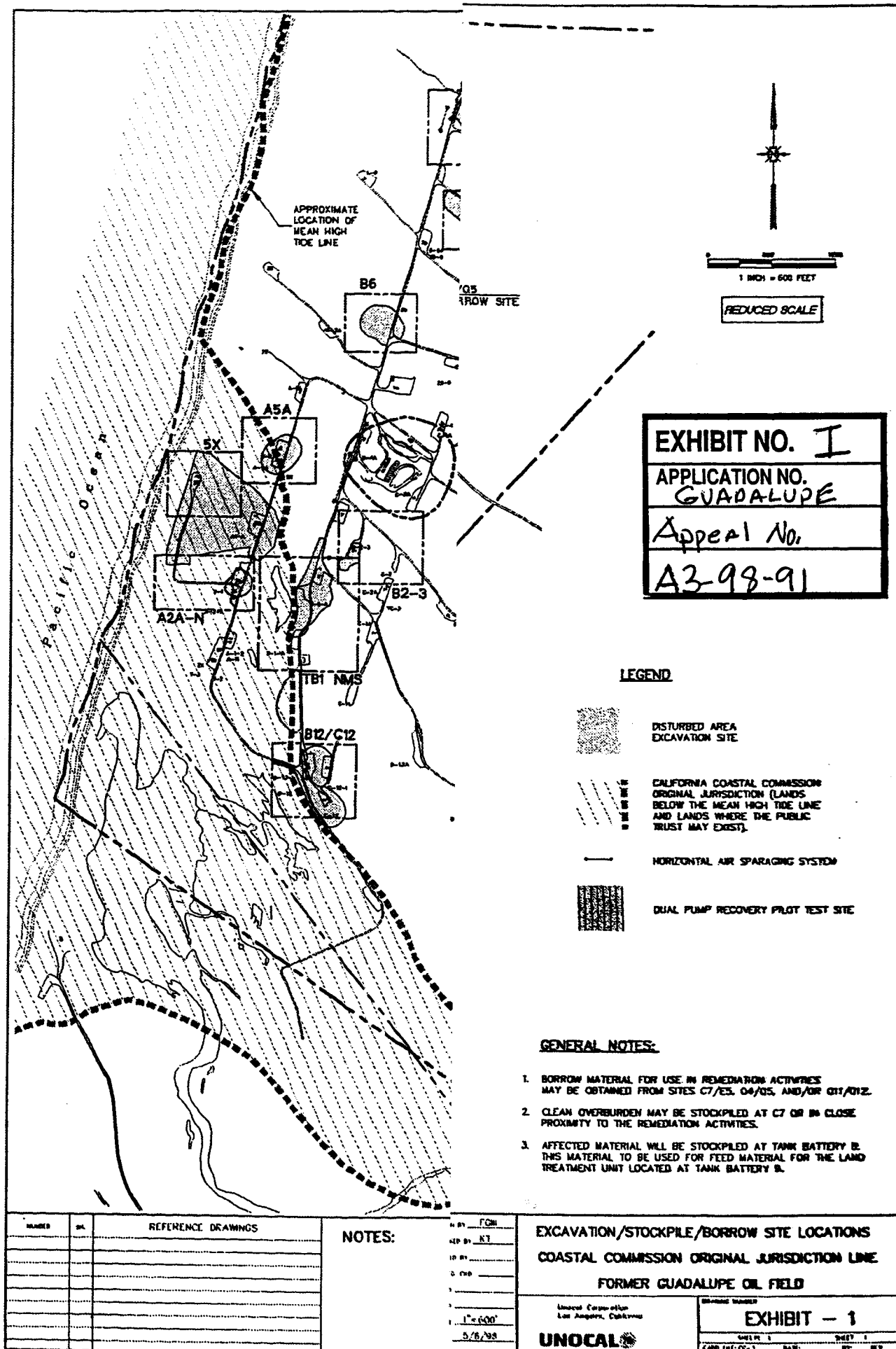
26. Failure to satisfy the requirements of any condition of this permit shall constitute a violation under the Coastal Act enforceable by all appropriate means including but not limited to, a cease and desist or a restoration order issued by the Coastal Commission.

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.

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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

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 Environmental Protection Agency

EXHIBIT NO.	2
APPLICATION NO.	Guadalupe
Appeal No.	
	A3-98-91

**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.

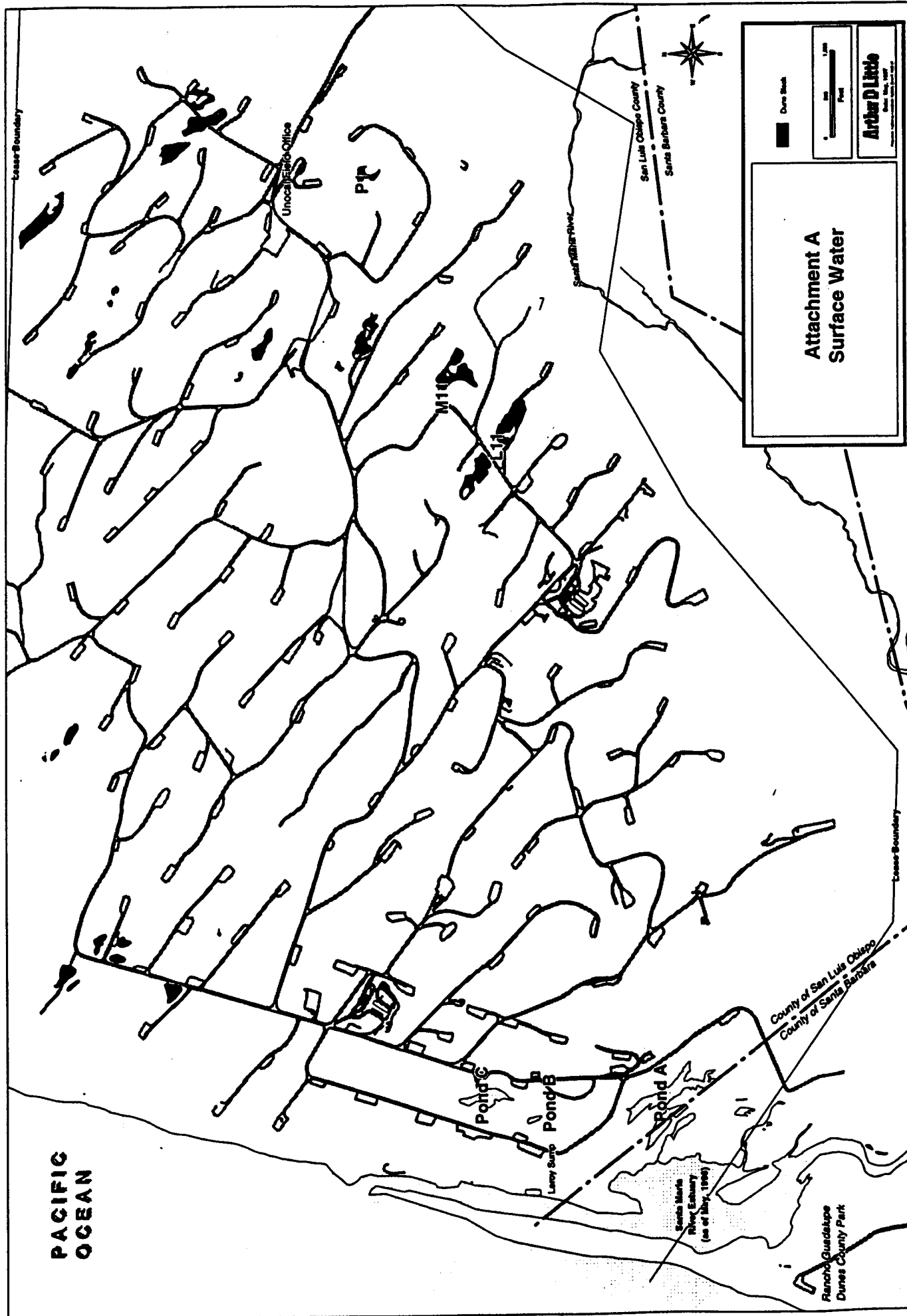
- XII. The intent of this Order is to require Phase I remedial actions that prevent discharges of diluent to surface water. If the actions required by this Order fail to meet that goal to the satisfaction of the Executive Officer, the Board may require additional corrective action as part of Phase I 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.

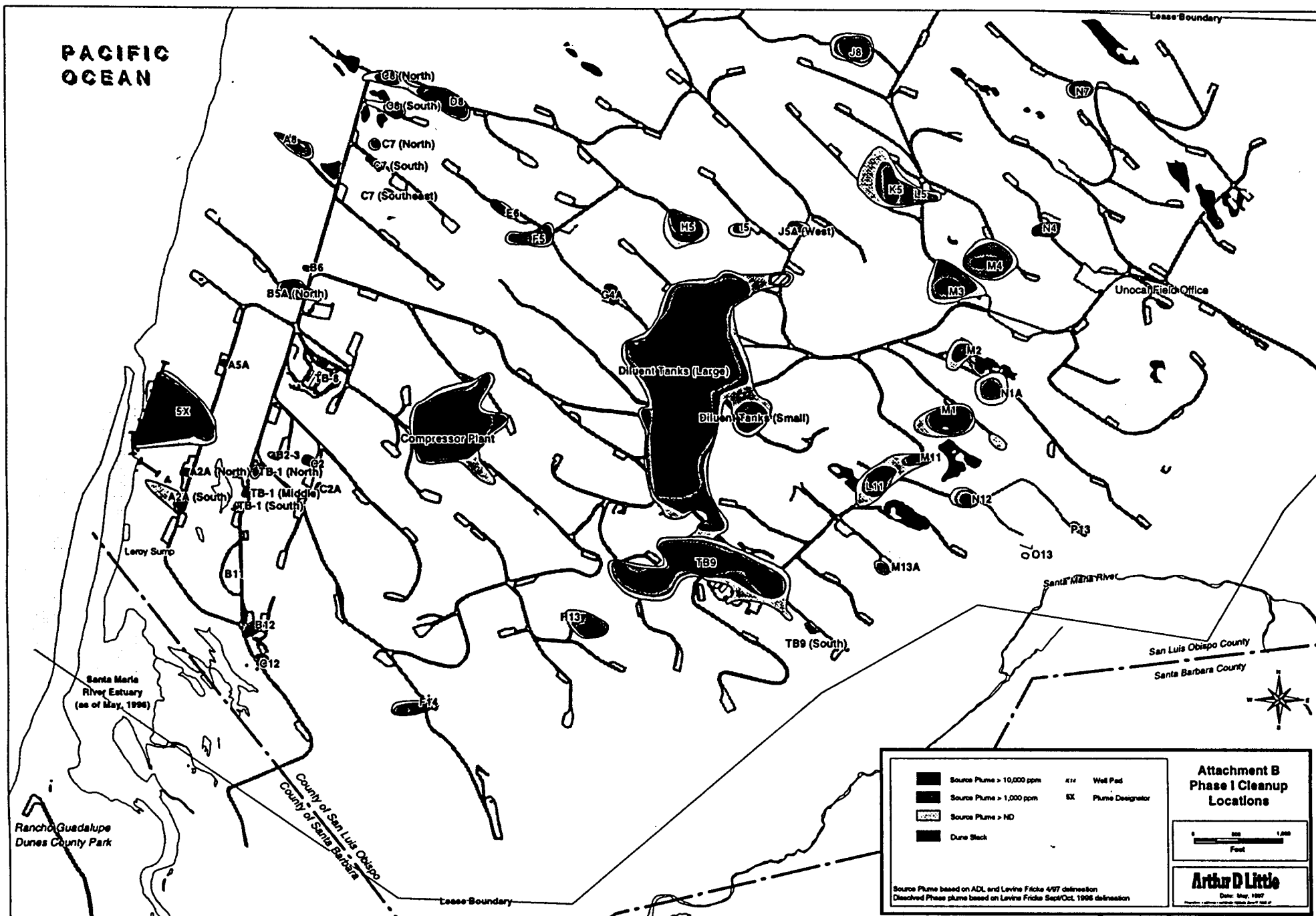
All technical and monitoring reports required in conjunction with this Order are required pursuant to Sections 13267 and 13304 of the California Water Code. Technical reports and plans shall be signed and stamped by an appropriately qualified engineer or geologist licensed in the State of California.

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

11-6-98
Date





Pacific Ocean

5X-Beach

Santa Maria R.

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

Feet



1 inch = 1000 feet

Unocal - Guadalupe

Sump Investigation Area

Levine • Fricke • Recon
Project No. 5646

Attachment C

DRAFT

INDEMNITY AGREEMENT

DRAFT

(IRREVOCABLE OFFER TO DEDICATE EASEMENT FOR LIMITED PUBLIC ACCESS)

This Indemnity Agreement ("Agreement") is made as of _____, _____. The Agreement is by and between UNION OIL COMPANY OF CALIFORNIA d/b/a UNOCAL, a California corporation ("Unocal") and _____ ("Indemnatee").

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 No.
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 Indemnatee:

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.** Indemnatee shall promptly notify Unocal in writing of any Claim(s) for which Indemnatee seeks

indemnification under this Agreement. The notification shall include such details regarding the nature of the Claim(s) as are known by Indemnatee 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 Indemnatee's reasonable control) in providing the notification.

c. **Investigation.** Indemnatee will reasonably cooperate with Unocal in any investigation of any Claim(s) for which Indemnatee seeks indemnification.

d. **Unocal's Notice of Decision Re Request For Indemnification.** Within forty-five days after delivery of Indemnatee's notice pursuant to paragraph 2 b. above, Unocal shall notify Indemnatee in writing whether Unocal will (i) provide unconditional indemnification of Indemnatee against the Claim(s) or (ii) provide conditional indemnification of Indemnatee against the Claim(s). Unocal will provide conditional indemnification in lieu of unconditional indemnification only if it asserts that a Claim(s) tendered by Indemnatee 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 Indemnatee 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 Indemnatee or permit any consequent lien, encumbrance or other adverse charge to exist upon any asset of Indemnatee.

(ii) Unocal will obtain Indemnatee'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 Indemnatee.

f. **Conditional Indemnification.** If Unocal does not agree to provide unconditional indemnification against a Claim(s), Unocal will nevertheless provide Indemnatee 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 Indemnatee 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 Indemnatee has sought indemnification is not a Claim(s) covered by this Agreement, then Indemnatee 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 Indemnatee for costs of defending any Claim(s) against which Unocal wrongfully refuses to defend Indemnatee.

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 Indemnatee.

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 Indemnatee ("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 Indemnatee.

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 Indemnatee 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 Indemnatee for any Claim(s) against which Unocal provides conditional or unconditional indemnification:

(i) will be paid or reimbursed by Unocal within sixty days after Indemnatee'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 Indemnatee:

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.

