STATEMENT OF FINDINGS

INTRODUCTION

These Findings on the Venoco Ellwood Marine Terminal (EMT) Lease Renewal Project (Project) proposed by Venoco, Inc. ("the Applicant") are made by the California State Lands Commission (CSLC), pursuant to the Guidelines for the California Environmental Quality Act (the CEQA) (California Code of Regulations, Title 14, section 15091). All significant adverse impacts of the proposed Project identified in the Final EIR are included herein and organized according to the resource affected.

The CEQA Findings are numbered in accordance with the impact and mitigation numbers identified in the Mitigation Monitoring Program in the Final EIR (see Section 6.0 of the Draft EIR, with revisions in Section 4.0 of the Final EIR). The CEQA Finding numbers are not numbered sequentially because some of the impacts were less than significant before mitigation (Class III) or a beneficial impact (Class IV).

For discussion of impacts, significance is classified according to the following definitions:

- Class I (significant adverse impact that remains significant after mitigation);
- Class II (significant adverse impact that can be eliminated or reduced below an issue's significance criteria);
- Class III (adverse impact that does not meet or exceed an issue's significance criteria); or
- Class IV (beneficial impact).

Class III and Class IV impacts require neither mitigation nor findings.

For each significant impact, i.e., Class I or II, a Finding has been made as to one or more of the following, as appropriate:

a) Changes or alterations have been required in, or incorporated into, the Project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

b) Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes

have been adopted by such other agency or can and should be adopted by such other agency.

c) Specific economic, legal, social, technological or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR.

Following the Finding is a discussion of the facts supporting them.

Whenever Finding (b) occurs, the agencies with jurisdiction have been specified. These agencies, within their respective spheres of influence, have the ultimate responsibility to adopt, implement, and enforce the mitigation discussed within each type of impact that could result from project implementation. However, under the CEQA (Public Resources Code section 21081.6), the CSLC, as the CEQA Lead Agency, has the responsibility to ensure that the required mitigation measures are effectively implemented. Other specified State, local, regional, and Federal public agencies include, but are not necessarily limited to the following:

- California Department of Fish and Game (CDFG);
- California Department of Transportation (Caltrans);
- California Office of the State Fire Marshal (CSFM);
- California Regional Water Quality Control Board (RWQCB);
- National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NOAA NMFS);
- U.S. Army Corps of Engineers (ACOE);
- U.S. Fish and Wildlife Service (FWS);
- Santa Barbara County Air Pollution Control District (SBCAPCD);
- Santa Barbara County Department of Planning and Development;
- City of Goleta; and
- Other local districts or jurisdictions.

Whenever Finding (c) is made, the CSLC has determined that sufficient feasible mitigation is not available to reduce the impact to a less than significant level and, even after implementation of all feasible mitigation measures, there would or could be an unavoidable significant adverse impact due to the Project. The Statement of Overriding Considerations, as required by the CEQA Guidelines sections 15092 and 15093, applies to all such unavoidable impacts.

These Findings are based on the information contained in the Draft and Final EIRs for the Project, as well as information provided by the Applicant and gathered through the public involvement process, all of which is contained in the administrative record as noted below. The mitigation measures are briefly described in these findings; more detail on each of the mitigation measures is included in the text of the Final EIR.

The location of the administrative record is in the Sacramento office of the California State Lands Commission, 100 Howe Avenue, Suite 100-South, Sacramento, CA 95825.

EIR FINDINGS

CEQA FINDING NO. GEO-2

GEOLOGIC RESOURCES

Impact: **Impact GEO-2: Damage to Facilities Due to Beach Scour**

Class: II

Finding(s): a) Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

FACTS SUPPORTING THE FINDING(S)

Successive strong winter storm surf events, such as those in 1978, 1983, 1996, and 1998, have periodically exposed the terminal's pipeline in the intertidal zone, resulting in unsupported free-span sections of pipeline of up to 40 to 55 feet (12 to 16 m) in length, as well as pipeline settlement up to 3 feet (1 m). Calculations done by the Santa Barbara County Building and Safety Division indicate that the marine loading line is vulnerable to damage if the free-span distance exceeds 30 feet (9 m). Pipeline cathodic protection tests, guided ultrasonic surveys (GUL) of the exposed portions of the pipeline, and hydrotests were performed on the loading pipeline, subsequent to pipeline exposure up to 55 feet (16 m) in 1998. These tests determined that the pipeline did not suffer any structural damage, excessive corrosion or leaks as a result of the

unsupported section of pipeline (Santa Barbara County Energy Division 1999). However, in the future, pipeline free-spans in excess of 30 feet (9 m) and scour-induced pipeline settlement could result in structural damage and rupture of the pipeline. Therefore, potential impacts due to beach scour would be potentially significant.

Mitigation Measure GEO-2a (Loading Line Monitoring) requires the marine loading line to be monitored after winter storms for exposure, debris impact, and for unsupported spans. Should the pipe free span approach 30 feet (9 m), remedial actions, e.g., sandbags beneath the pipe, permanent pipe supports, evacuating the line, etc., shall be implemented to maintain the integrity of the line. In addition, assessment of the strains on the pipeline due to settling should be conducted when the pipeline is exposed and any additional supports should be added at that time.

It was determined by the Santa Barbara County Energy Division and the CSLC that the uncovering of the pipeline section located on the beach with heavy machinery would produce significant environmental impacts. Therefore, it was decided that the Applicant would wait till the pipeline is uncovered naturally, e.g., as a result of a storm. Mitigation Measure (MM) GEO-2a would minimize potential stress on the marine loading line resulting from unsupported pipeline sections and pipeline settlement created by wave-induced beach and dune scour. Reducing stress on the pipeline would reduce potential for pipeline failures, and subsequent oil spills.

As described above, prior exposure of the pipeline in the beach areas created unsupported spans. Analysis, conducted by the Applicant and the Santa Barbara County Energy Division, indicated that the lack of support under the spans did not exceed criteria defining good engineering practices. However, some settling of the pipeline could have occurred and this could have introduced strains on the pipeline that could compromise the pipeline integrity. The proposed engineering analysis would determine the impact of pipeline settling on the pipeline integrity. Timely identification of any pipeline stress would allow for repairs or installation of supports to the pipeline and would reduce risk of pipeline failure from the identified stress, and thus reduce probability of an oil spill.

Summary. With the mitigation described above, the impact is reduced to a less than significant level.

CEQA FINDING NO. GEO-3

GEOLOGIC RESOURCES

Impact: **Impact GEO-3: Facilities Damage due to Corrosion**

Class: II

Finding(s): a) Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

FACTS SUPPORTING THE FINDING(S)

The marine loading line is located immediately above ground from the pump house to the sand dunes, and is buried from the sand dunes into the surf zone. The loading line is coated for external protection and equipped with cathodic protection. In the surf zone area, portions of the pipe are covered with a mastic covering and wrapped with 10-inch-wide (25-cm), all-weather pipe wrap to the 10-inch (25-cm) flange, and portions are coated with 0.06-inch-thick (0.2 cm) Tru-Coat plastic coating. However, inspections of the pipeline after exposures in 1996 and 1998 showed that the buried section of the pipeline contains areas with missing or damaged coating that have been exposed extensively to salt water. In addition, this section of the pipeline may currently be at an elevation below the water table, as it was in the summer of 2001 (Santa Barbara County Energy Division 2002). Although corrosion of the pipeline is mainly controlled by the cathodic protection, the portion of the loading line that is missing the coating and wrapping is particularly susceptible to corrosion and associated pipeline leaks.

Monthly testing completed by the Applicant for the marine loading line has demonstrated that the pipeline has adequate cathodic protection. In addition, the Applicant completed Guided Ultrasonic (GUL) testing inspections of the marine loading line in June 2001 and April 2002. The GUL inspections indicated that there is no active corrosion in the pipeline; however, the tests were not completed on the buried portion of the pipeline (Santa Barbara County Energy Division 2002), which is most susceptible to corrosion. The GUL testing of the pipeline that detects internal and external corrosion can only be performed, with 100 percent certainty in results, on the exposed portions of pipelines.

In addition, other structural components of the EMT are exposed to weathering and have the potential to leak. For example, the EMT tanks have recently undergone significant repairs due to corrosion-related issues on both tanks.

Mitigation Measure 3a requires the marine loading line be monitored after winter storms. In the event that the line is exposed by winter beach scour, the Applicant shall inspect the line with GUL and confirm thickness of problem areas with ultrasonic testing technology. The Applicant shall re-coat and re-wrap all segments of the line damaged or missing pipeline coating. In addition, the remaining unexposed portion of pipe in the intertidal area shall similarly be excavated (preferably with hand tools), inspected, tested, re-wrapped, and re-coated as necessary. In addition, other structural components of the EMT, including the tanks, connecting pipelines and valves shall be monitored for corrosion-related damage. This maintenance should be conducted on the pipeline if pipeline exposure does not occur within the next five years. The loading pipeline testing and inspection program will comply with the CSLC's Marine Oil Terminal Engineering and Maintenance Standards (MOTEMS).

Summary. With the mitigation described above, the impact is reduced to a less than significant level.

CEQA FINDING NO. GEO-4

GEOLOGIC RESOURCES

Impact: **Impact GEO-4: Erosion of Drainages**

Class: II

Finding(s): a) Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

FACTS SUPPORTING THE FINDING(S)

Routine maintenance, pipeline replacement, and/or oil spill remediation activities may result in vegetation removal and excavations, which may cause an increased potential for short-term erosion and sedimentation of a nearby dune swale pond, a surrounding wetland, and Devereux Slough, located approximately 400 to 500 feet (120 to 150 m), at the closest point southeast and topographically down gradient from the onshore EMT and its associated marine loading line. While these activities pose the same risk under current operations, the extension of the life of the facilities due to the proposed Project would extend the potential for these types of disturbances.

Mitigation Measure GEO-4a requires the use of Best Management Practices (BMPs), such as temporary berms and sedimentation traps, including silt fencing, straw bales, and sand bags, be implemented prior to work involving ground disturbance. The BMPs shall include maintenance and inspection of the berms and sedimentation traps during

rainy and non-rain periods, as well as re-vegetation of impacted areas. Re-vegetation shall be consistent with existing plant types as well as incorporate monitoring to ensure appropriate covering of exposed areas.

Summary. With the mitigation described above, the impact is reduced to a less than significant level.

CEQA FINDING NO. GEO-5

GEOLOGIC RESOURCES

Impact: **Impact GEO-5: Faulting and Seismicity**

Class: II

Finding(s): a) Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

FACTS SUPPORTING THE FINDING(S)

The South Branch More Ranch Fault traverses the EMT. The exact location of this fault in the vicinity of the Project site is not well defined; however, exposures of this fault to the west and east of the Project site indicate that the fault is potentially active. Only in the past seven years has this fault branch been recognized as traversing the project site. In addition, the North Branch More Ranch Fault is located approximately 0.4 mile (0.6 km) north of the EMT. This fault is considered active, and it would be more likely than the South Branch More Ranch Fault to rupture and create strong seismically induced ground shaking at the Project site.

Strong-to-intense ground shaking due to an earthquake on these or other regional active faults could result in differential settlement, lateral spreading, and localized liquefaction, resulting in potential damage to and/or rupture of EMT facilities. Earthquake-related hazards, such as liquefaction, ground rupture, ground acceleration, and ground shaking cannot be avoided in the Santa Barbara/Goleta region and in particular in the vicinity of the More Ranch Fault.

The EMT was constructed in 1929, and seismic integrity testing and/or seismic retrofitting has not been completed since construction, thus increasing the vulnerability of the facility to seismically induced damage. The Santa Barbara County Energy Division maintains a Systems Safety and Reliability Review Committee (SSRRC) to identify and require correction of possible design and operational hazards for oil and gas projects. The goal of the SSRRC is to substantially reduce the risks of project-

related hazards that may result in loss of life and injury and damage to property and the natural environment. The SSRRC is a delegated authority to review the technical design of facilities, as well as to review and approve the Safety, Inspection, Maintenance and Quality Assurance Program (SIMQAP) and its implementation, e.g., conduct safety audits, review facility changes, etc. (Santa Barbara County Energy Division 2005). A review of SIMQAP files indicates that seismic integrity testing and/or seismic retrofit activities have not been completed at the EMT. The Santa Barbara County Fire Prevention Division indicated that seismic studies had not been completed at the EMT, as part of the California Accidental Release Program (Cal ARP), because there are no combustible gases or highly toxic regulated materials stored at the facility.

Seismic hazards are common to the Santa Barbara region and are not increased by the Project. However, because the Project area is underlain by a newly identified strand of the potentially active South Branch More Ranch Fault, and the active North Branch More Ranch Fault is only 0.4 mile (0.6 km) north of the EMT, there is a greater than average risk of seismic impacts, especially to the crude oil storage tanks.

Mitigation Measure GEO-5a requires the Applicant to cease terminal operations and inspect all EMT pipelines and storage tanks following any seismic event in the region (Santa Barbara County and offshore waters of the Santa Barbara Channel and Channel Islands) that exceeds a ground acceleration of 13 percent of gravity (0.13 g). The Applicant shall report the findings of such inspection to the CSLC and the SSRRC and shall not reinstitute operations of the EMT until authorized to do so by the CSLC. In addition, Mitigation Measure HM-1a (Reduced Crude Oil Hydrogen Sulfide Content) and HM-1b (EMT Tank Maintenance Program) identified in the Hazards and Hazardous Materials Findings, would also apply to this potential impact and are discussed below.

Mitigation Measure GEO-5a would reduce seismically induced impacts caused by a rupture on a nearby or regional fault by identifying failed components prior to resuming terminal operations. Mitigation Measure HM-1a and HM-1b, which are required in anticipation of and in preparation for a seismic event, would reduce the probability of a storage tank failure, and minimize potential impacts to public health in the event the storage tank fails during a seismic event.

Summary. With the mitigation described above, the impact is reduced to a less than significant level.

CEQA FINDING NO. HM-1

HAZARDS AND HAZARDOUS MATERIALS

Impact: **Impact HM-1: Acute Risks of Crude Oil Spills**

Class: II

Finding(s):

a) Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

b) Such changes or alterations are within the responsibility and jurisdiction of the Santa Barbara County and city of Goleta and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.

FACTS SUPPORTING THE FINDING(S)

A spill of oil could result in acute impacts to the surrounding areas by exposing persons to crude oil fires and toxic vapors. Potential increases in crude transportation would increase the potential frequency of crude oil spills from EMT loading operations. This would increase the acute risks to recreational areas on the Ellwood Mesa due to potential crude fires and toxic vapors associated with a crude oil spill. Spill sizes from Line 96 would also increase marginally, thereby increasing the size of hazard zones around Line 96.

The EMT storage tanks were installed nearly 80 years ago and, given the recent issues related to the tank integrity, a thorough program of inspection and maintenance should be established. A failure of the tanks could release crude oil into the diked areas and release toxic vapors or, given an ignition source, ignite and produce thermal effects due to a crude tank fire.

A reduction of the hydrogen sulfide (H_2S) content in the crude required by Mitigation Measure HM-1a would directly impact the size of the area that could be impacted by a toxic vapor cloud. A reduction of crude H_2S levels would potentially eliminate the offsite impacts associated with toxic vapor clouds. This could be achieved at the Ellwood Onshore Facility (EOF) by increasing the stripping in the crude oil H_2S stripping vessel or increasing the number of stripping vessels in operation, as long as the modification is consistent with the EOF's current operating status. This measure would reduce the acute risks from an oil spill to a level that would be less than that associated with current operations.

The EMT tanks have recently undergone significant repairs due to corrosion related issues on both tanks. These recent issues call into question the status of the tanks in terms of maintenance. Well maintained tanks leak less often and are more capable of maintaining integrity in the event of an earthquake. The maintenance program required under Mitigation Measure HM-1b would detect corrosion issues, determine valve and piping integrity, ensure dike maintenance and seismic integrity. Poorly maintained equipment has a higher failure rate, which would increase the probability of impacts to the public given a spill. A comprehensive maintenance program for the tanks, including seismic analysis and retrofits, would ensure reliable operation for the lease period.

Summary. With the mitigation described above, the impact is reduced to a less than significant level.

CEQA FINDING NO. HM-2

HAZARDS AND HAZARDOUS MATERIALS

Impact: **Impact HM-2: Risks of Crude Oil Spills to the Environment**

Class: I

Finding(s):

a) Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

c) Specific economic, legal, social, technological or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR.

FACTS SUPPORTING THE FINDING(S)

A spill of oil could result in impacts to the surrounding areas by impacting environmental resources. Impacts to the environment are discussed in detail in EIR Sections 4.4, Hydrology, Water Resources, and Water Quality, and 4.5, Biological Resources. Increased loading operations would increase the hours per year that the loading pumps are operating and that the barge is located offshore and is loading. This increase in the presence of the barge and increase in time that the loading pipeline and the loading pumps are operating would increase the frequency of potential spills to the environment over that of current operations.

Compliance with the CSLC requirements for marine terminals has been examined by the CSLC audits conducted over the past 10 years. As volumes of spilled crude are not expected to increase, compliance issues with CSLC requirements are not expected to

change. There are a few areas, however, where operations could more directly comply with CSLC requirements.

Mitigation measures (MM) listed in EIR Sections 4.4, Hydrology, Water Resources and Water Quality, 4.5, Biological Resources, and 4.1, Geological Resources, and those mitigation measures listed below for impacts related to oil spill compliance and response would reduce the severity and frequency of oil spills. However, risk of spills to the environment would, under maximum authorized operations, still increase over that of current operations. Therefore, potential impacts associated with crude oil spills to the environment would remain potentially significant (Class I).

Summary. This impact remains potentially significant following application of all feasible mitigation.

CEQA FINDING NO. HM-3

HAZARDS AND HAZARDOUS MATERIALS

Impact: **Impact HM-3: Increased Spill Sizes Due to Loading Pipeline Vacuum/Evacuation Operation**

Class: II

Finding(s): a) Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

FACTS SUPPORTING THE FINDING(S)

A larger spill of oil could occur and result in larger impacts if the loading line is not capable of operating in vacuum mode or being evacuated of its contents. The CSLC Marine Oil Terminal Regulations, Title 2, California Code of Regulations Section 2390, indicates that loading lines for offshore terminals shall be able to operate in a vacuum. This requirement would enable the loading line to draw the oil back into the EMT and to draw seawater into the pipeline, if a leak is discovered. This would reduce the size of a leak over the scenario where no vacuum is available. The regulations also state that, during mooring, a vacuum shall be maintained on the loading line. The EMT is currently not equipped to operate the loading line in a vacuum. Currently, the facility has a waiver for the vacuum operation requirement from the CSLC. Also, in lieu of operating in a vacuum, the ability to pump seawater back through the loading pipeline to clear the loading pipeline of oil in the event of a spill would provide the same level of protection and reduce the size of the spill. The barge is only capable of doing this when it is full, as the intake for the seawater pumps on the barge is above the water line when the

barge is not sitting low in the water (barge is empty). The Emergency Action Plan (EAP) states to displace the loading pipeline with seawater in the event of a loading pipeline spill. However, this would not be possible if the barge is not full.

The implementation of Mitigation Measure HM-3a would withdraw the existing waiver and the resultant ability to draw a vacuum on the loading line or to evacuate the loading line could substantially reduce the size of a release from the pipeline if a leak occurred. This would enable a negative pressure to be placed on the pipeline, drawing ocean water into the pipeline, or to pump out the oil in the loading pipeline and back to the EMT tanks as opposed to oil spilling into the marine environment. This would be accomplished by installing piping capable of running the pumps at the EMT in a mode that moves the oil from the pipeline back to the tanks or modifying the intake on the barge Jovalan to be below the water line when the barge is empty.

Summary. With the mitigation described above, the impact is reduced to a less than significant level.

CEQA FINDING NO. HM-4

HAZARDS AND HAZARDOUS MATERIALS

Impact: **Impact HM-4: Increased Spill Sizes Due to Loading Pipeline Leak Detection**

Class: II

Finding(s):

a) Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

b) Such changes or alterations are within the responsibility and jurisdiction of the Santa Barbara County and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency

FACTS SUPPORTING THE FINDING(S)

A spill of oil could result in larger impacts if the leak goes undetected for a long period of time. Section 2569 of the CSLC regulations (Title 2, Division 3, Chapter 1, Article 5.5 of the California Code of Regulations) indicates that a terminal loading line should be equipped with a leak detection system if it is a Class II pipeline (has experienced recent leaks or located in sensitive areas). This requirement can be fulfilled by pressure testing if the loading line is not equipped with a hose. The EMT loading line is equipped with a hose. A leak detection system capable of detecting at least a two percent loss of

flow balance would enable a leak to be detected during periods when the pipeline route is not visible, such as at night or during foggy periods or other periods of low visibility, and might enable a leak to be detected faster during normal operations. Faster detection of a leak would enable quicker operational responses and enhance mobilization of spill clean-up efforts, even during nighttime and foggy periods.

As the loading times for the barge extend into the nighttime, and Coal Oil Point is frequently foggy with reduced visibility, a means of detecting a leak that does not rely on visual inspection, as required by Mitigation Measure HM-4a, could substantially reduce the response time to a leak. This could reduce the size of a pipeline leak and its resulting impacts to coastal resources. A leak detection system would not detect smaller leaks, below the two percent value. Therefore, loading of the barge should also be accompanied by operator attendance at all times.

Summary. With the mitigation described above, the impact is reduced to a less than significant level.

CEQA FINDING NO. HM-5

HAZARDS AND HAZARDOUS MATERIALS

Impact: **Impact HM-5: Increased Spill Sizes Due to Failure to Deploy Loading Booms**

Class: II

Finding(s): a) Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

FACTS SUPPORTING THE FINDING(S)

A spill of oil could result in larger impacts if the leak is not captured by a boom in a short period of time or small spills may go unnoticed if a boom is not in place. Section 2395, CSLC regulations, indicates that a boom is required to be in place during normal loading operations at onshore terminals. This is not a requirement for offshore terminals, such as the EMT or for onshore terminals where there are high velocity currents. While, the placement of a boom around the barge during normal loading operations would have multiple benefits, there are numerous seeps in the area that would contaminate the boom every time it is deployed, even when no oil spill occurs, and the deployed boom would inhibit access to and from the barge in the event of an emergency.

Mitigation Measure HM-5a would require the terminal operator to provide sufficient boom appropriate to the conditions at the terminal prior to commencement of each transfer operation. This measure would also require trained personnel and equipment, maintained in a stand-by condition at the terminal, so that a length of at least 600 feet of boom could be deployed for effective containment within 30 minutes of a spill.

Summary. With the mitigation described above, the impact is reduced to a less than significant level.

CEQA FINDING NO. HM-6

HAZARDS AND HAZARDOUS MATERIALS

Impact: **Impact HM-6: Spills Due to Loading Pipeline Failure from Inadequate Loading Pipeline Integrity Inspections**

Class: II

Finding(s):

a) Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

b) Such changes or alterations are within the responsibility and jurisdiction of the Santa Barbara County and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency

FACTS SUPPORTING THE FINDING(S)

A failure to inspect the loading pipeline for corrosion or unsupported spans could result in a release of crude oil and an impact to the environment. As the loading pipeline has been in service for an extended period of time, there is the possibility of corrosion of the pipeline which could lead to a release of crude oil. Tests conducted by the applicant using Long Range Guided Ultrasonic Screening (GUL) were conducted in 2001, 2002, and 2004 and showed acceptable corrosion levels. However, these tests were only conducted on the loading line between the beach and the loading line pumps. Uncertainty remains as to the quality of the pipeline that is both under the sand at the intertidal zone and offshore. The CSLC indicates, through API 570 and CSLC publications related to API 570 (CSLC 2005) that pipe thickness measurements and corrosion rate estimates are to be performed for all sections of piping. Technologies such as retractable/bi-directional pigs could be available that could be inserted into the pipeline at either the hose location or near the pump-house location to inspect the entire pipeline, thereby helping to ensure the pipeline integrity. However, these pigs most likely would not be able to negotiate the turns in the pipeline located at the beach area.

Either the turns would need to be replaced with piggable turns or the pigs would need to be inserted at each end of the pipeline.

In the absence of retractable pigs, pipeline pressure tests could be conducted annually for a period of four hours at 125 percent the maximum operating pressure. It is not clear from the pressure test history as to the time between tests. The frequency of tests should be well established.

Extensive GUL testing was conducted on parts of the pipeline from the beach pipe flange towards the EMT. GUL testing results are comparable to a smartpig and indicate the condition of the pipeline as to internal and external corrosion and anomaly issues. However, a program of periodic GUL testing does not appear to be established for that portion of the pipeline through the beach area and as far as practical into the intertidal zone. An appropriate interval would be at a minimum of every three years (CSFM requirement for pressure testing for Class II pipelines).

Visual inspection of the pipeline ensures that there are no unsupported spans, either on the beach or underwater along the pipeline route between the beach and the loading hose, and that debris is not impacting the pipeline. Unsupported spans can increase the stresses in a pipeline, thereby increasing the frequency of pipeline failure. Remotely operated vehicle (ROV) or diver inspections of the underwater portion of the pipeline should be conducted periodically. ROV inspection of Platform Holly and seep tent pipelines were conducted in 2003.

Although pressure testing of a pipeline gives some assurance of pipeline integrity, a number of pipeline spills have occurred due to anomalies that were not detected by pressure tests. The Platform Irene release of 1997 is a good example, where the failure of the pipe occurred at a flange weld approximately midway between Platform Irene and the shoreline. A crack developed in the weld connecting a flange to the pipe. The metal in this area was determined to be brittle due to the weld construction techniques where the metals were not properly pre-heated, thereby increasing the metal brittleness. Subsequent cracking occurred in this area possibly due to external strains, believed to be caused in part by the 50-foot (15.2-meter) unsupported span of pipeline at the leak location. Smart-pig runs had been conducted in 1995 and 1996 with a lower resolution system than is currently being used.

Pipeline integrity inspections required under Mitigation Measure HM-6a would reduce the probability of a pipeline failure. Pressure testing of the pipeline helps to ensure sufficient pipeline integrity and that pipeline corrosion or other defects do not

compromise the pipeline integrity between tests. A close interval cathodic protection analysis was conducted in 2002. A program to conduct close interval cathodic protection surveys, which are a thorough cathodic protection survey, shall be conducted on a regular (3-5 years) basis to ensure that the cathodic protection system has not been compromised.

Visual inspection of the pipeline corridor will ensure that unsupported spans do not compromise the offshore integrity of the pipeline. As the pipeline has a history of being exposed during heavy storms, the pipeline shall be inspected during and after storms to ensure that unsupported spans do not exceed 30 feet and that debris does not impact the pipeline.

Summary. With the mitigation described above, the impact is reduced to a less than significant level.

CEQA FINDING NO. HM-7

HAZARDS AND HAZARDOUS MATERIALS

Impact: **Impact HM-7: Spills Due to Pump Leaks and Lack of EMT Pump Drains Spill Containment**

Class: II

Finding(s):

a) Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

b) Such changes or alterations are within the responsibility and jurisdiction of the Santa Barbara County and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency

FACTS SUPPORTING THE FINDING(S)

A spill of crude oil at the EMT pumps could impact the sensitive slough areas through unprotected drains. A spill of crude oil at the EMT pumps during pumping would drain directly into unprotected drains which empty into the Devereux Slough area. For impacts to the slough area, please see Sections 4.4, Hydrology, Water Resources, and Water Quality, and 4.5, Biological Resources. The EMT pump drain is located in front of the pump building and the end drain is located on the far south-eastern end of the EMT.

Containment of spills is the initial goal of spill response. A spill at the pump area could enter into the slough through the drains or over the small berms. Mitigation Measure

HM-7a will require that the drains be protected with coverings and the berms be evaluated to ensure that they can contain a large spill. This will reduce the potential impacts associated with a spill at the pumps by preventing the oil from reaching sensitive habitats.

Summary. With the mitigation described above, the impact is reduced to a less than significant level.

CEQA FINDING NO. HM-8

HAZARDS AND HAZARDOUS MATERIALS

Impact: **Impact HM-8: Increased Spill Size Due to Spill Response Planning and Drills**

Class: II

Finding(s):

a) Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

b) Such changes or alterations are within the responsibility and jurisdiction of the Santa Barbara County and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency

FACTS SUPPORTING THE FINDING(S)

A spill of crude oil at the Barge could impact additional sensitive areas if response is not adequate. Venoco maintains an Oil Spill Contingency Plan (OSCP) for the South Ellwood Field that covers the EOF, EMT, Line 96, Ellwood Pier, Platform Holly, and Beachfront Lease PRC 421. The OSCP (Venoco 2005b) details the inspection and maintenance procedures as well as training and drills for the affected facilities, in addition to describing the spill response capabilities.

Due to the close proximity of the loading area to sensitive habitats, a spill from the barge or loading line would most likely impact sensitive habitats. However, effective response to a spill of crude oil from the barge or loading line could reduce the size of the area impacted by a spill, thereby reducing the impacts on marine and biological resources (see Sections 4.4, Hydrology, Water Resources, and Water Quality, and 4.5, Biological Resources). The USCG requires that equipment deployment exercises and emergency procedure exercises be conducted periodically (CFR Title 33, section 154.1055). The USCG National Preparedness for Response Exercise Program (PREP) also directs companies to conduct regular exercises with the equipment. The Venoco EMT EAP shall include information detailing drills.

Training and conducting on-water drills with response equipment will enable responders to fine-tune response capabilities and ensure adequacy in responding to a real-life spill event. Currently, drills are only conducted for responding to spills from Platform Holly. Mitigation Measure HM-8a requires that the drills shall be expanded to include responding to a spill from the barge or the loading pipeline. Planning and periodic execution of the OSCP, with particular emphasis on spill response, boom deployment, prevention measures, and inspection and maintenance programs, will reduce the frequency and extent of impacts of potential spills.

Summary. With the mitigation described above, the impact is reduced to a less than significant level.

CEQA FINDING NO. HM-9

HAZARDS AND HAZARDOUS MATERIALS

Impact: **Impact HM-9: Spills Due to Barge Hull Penetrations**

Class: II

Finding(s):

a) Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

b) Such changes or alterations are within the responsibility and jurisdiction of the Santa Barbara County and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency

FACTS SUPPORTING THE FINDING(S)

A spill of crude oil from the barge could result from accidental grounding, collision, allision, or puncturing of the barge bottom, which is single-hulled. Current federal regulations require the replacement/conversion of the barge Jovalan with/to a double hulled barge by 2015. As the barge Jovalan is less than 5,000 gross tons (4,536 metric tons), it must comply by 2015 instead of the 2010 requirement associated with larger vessels. Double-hulled vessels have a lower frequency of spills due to the added protection that the double hull provides given a grounding, collision, allision, or bottom puncture. Requiring that the EMT utilize a double-hulled barge or that the barge Jovalan be converted to a double hulled vessel, sooner than the regulation requires, would reduce the risk of an oil spill due to the above described events.

The U.S. DOT estimates that double hulled vessels have a conditional probability of spills, given a barge incident, of five times less than that of single hulled vessels. Many of the barge release scenarios would be avoided or minimized with use of a double hulled vessel, including collisions with other vessels or with the tug, allisions with mooring buoys, loss of control and subsequent grounding, bottom punctures, etc. Replacement of the barge with a double hulled vessel, as required by Mitigation Measure HM-9a, would reduce the probability of a spill given a barge incident. This measure most likely would take 12-18 months to implement as either an additional barge, such as the Olympic Spirit (a double hulled barge operated by the same company that operates the Jovalan) or a new barge being proposed by Harley Marine Services, the Jovalan owner, would need to be fitted with vapor control equipment. Harley Marine Services has stated their intention to decommission the barge Jovalan on or before March 30, 2010.

Mitigation Measure HM-9a would also allow for the construction and use of a new onshore pipeline that connects to the Plains All American Coastal Pipeline located approximately nine miles west of the EOF as an alternative to providing a double hulled vessel within the 18-month time period. Risks from oil transportation by pipeline are the lowest of any form of transportation. As the pipeline would be a new pipeline with pigging capabilities, it would have a substantially lower failure rate than either the Line 96 pipeline or the existing EMT loading line. All impacts associated with marine vessel oil spill risk would be avoided by using a new onshore pipeline.

Summary. With the mitigation described above, the impact is reduced to a less than significant level.

CEQA FINDING NO. AQ-1

AIR QUALITY

Impact: **Impact AQ-1: Increase in Emissions from Operations**

Class: II

Finding(s):

a) Changes or alterations have been required in, or incorporated into, the Project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

b) Such changes or alterations are within the responsibility and jurisdiction of the Santa Barbara County Air Pollution Control District and not the agency making the finding. Such changes have

been adopted by such other agency or can and should be adopted by such other agency.

FACTS SUPPORTING THE FINDING(S)

The proposed Project could potentially result in increased operational emissions at the EMT and from the barge Jovalan. The annual number of loadings could potentially increase from the current 23 to 88 and oil throughput could increase to 13,000 barrels per day (BPD) (2,067 m^3 per day). This would increase the annual emissions of the proposed Project over the current operations.

The increase in annual nitrogen oxides (NOx) emissions due to the proposed Project would be above the significance threshold of 25 tons per year, assuming that loading operations at the EMT would continue as currently occur, i.e., the tug and assist vessel engines are shut down most of the time during loading, and 30 out of 88 trips would be made to the San Francisco Bay area (currently approximately 34 percent of trips are made to the San Francisco Bay area). Therefore, the proposed Project's operational air impacts would be potentially significant.

The annual operational emissions would be lower if fewer trips are made to the San Francisco Bay area. Therefore, Mitigation Measure AQ-1a sets a limit on the number of trips that can be made to San Francisco Bay Area refineries. The current percentage of trips made to the San Francisco Bay area is approximately 34 percent, which for the proposed operations translates into 30 trips out of 88. If, with no other mitigation, the trips made to the San Francisco Bay area are limited to 14 out of 88 trips, emissions of NOx would be reduced to below the annual threshold of 25 tons. If the tug and assist boat main engines emissions are reduced by 20 percent, e.g., by hiring boats with newer engines, then the number of trips made to the Francisco Bay area refineries can be increased to 25 out of 88, and the annual NOx emissions would still be below the significance level.

If the generators on the tug and assist vessels are shut off when the vessels are not assisting the barge, as currently done and required by Mitigation Measure AQ-1b, the daily emissions from the generators would be kept at the current level. Therefore, this mitigation measure will ensure that the current operations continue, and the boats will shut down the engines during loading.

Summary. With the mitigation described above, the impact is reduced to a less than significant level.

CEQA FINDING NO. AQ-2

AIR QUALITY

Impact: **Impact AQ-2: Odor Emissions from Operation**

Class: II

Finding(s):

a) Changes or alterations have been required in, or incorporated into, the Project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

b) Such changes or alterations are within the responsibility and jurisdiction of the Santa Barbara County Air Pollution Control District and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.

FACTS SUPPORTING THE FINDING(S)

The proposed Project could result in increased barge loadings and increased potential for an oil spill, and thus could potentially result in increased nuisance odor events. The areas immediately adjacent to the EMT are used for recreational purposes. In addition, there are residential areas and a school within 0.5 mile (0.8 km) of the onshore and offshore portions of the EMT. Thus, releases of odorous compounds such as H_2S or petroleum gases could create nuisance odors, which would be considered a potentially significant impact.

Odors from the EMT and the barge Jovalan could originate from several sources. Barge loading typically does not emit odorous compounds due to the implemented controls, i.e., vacuum on the holds during loading, vapor control using the VRU, and caustic treatment of H_2S. However, if the pressure safety valves (PSVs) on the barge holds open to the atmosphere due to an overpressure event, which is triggered by pressure of 14 inches of water above atmospheric (0.03 atmospheres gauge or 0.51 pounds per square inch, gauge [psig]), odorous compounds would be released to the atmosphere. Any accidental releases, such as crude spills could also result in odor events. For instance, confirmed nuisance odor events occurred when the EMT storage tanks had leaks in the floating roofs and crude oil accumulated on the top of the floating roofs.

The increased barge loadings under the proposed Project could potentially increase releases of odorous compounds to the atmosphere. The proposed Project would also increase the potential for an oil spill. Any increase in odorous compounds releases would be a significant impact as it violates APCD Rule 303.

The monitoring program to ensure integrity of the storage tanks (Mitigation Measure HM-1b) will reduce the possibility of free product leaking through the internal tank roofs. If the monitoring program fails to reduce odorous emissions or is found to be inefficient, other methods of vapor control on the oil storage tanks will eliminate or significantly reduce the amount of vapors that produce nuisance odors, because the vapors will be physically controlled by an approved method as required by Mitigation Measure AQ-1a.

The monitoring of the loading pressure and timely shutdown of the pumps in case of overpressure required under Mitigation Measure AQ-1b will initiate shutdown prior to the lifting of the PSVs and thus reduce the potential release of odorous compounds. Installation of proximity switches would reduce the time needed to shutdown the loading, or correct the situation, to prevent the lifting of the PSVs and thus reduce the potential release of odorous compounds. Implementation of MM HM-1a will reduce the amount of H_2S in the oil and thus vapor phase, thereby reducing H_2S concentration in the air in case of a release. Implementation of the mitigation measures outlined in Hazards and Hazardous Materials will reduce the potential for accidental releases.

Summary. With the mitigation described above, the impact is reduced to a less than significant level.

CEQA FINDING NO. AQ-3

AIR QUALITY

Impact: **Impact AQ-3: Increase in Health Risk**

Class: II

Finding(s):

a) Changes or alterations have been required in, or incorporated into, the Project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

b) Such changes or alterations are within the responsibility and jurisdiction of the Santa Barbara County Air Pollution Control District and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.

FACTS SUPPORTING THE FINDING(S)

The proposed Project could result in increased barge loadings and increased health risks associated with exposure to diesel exhaust. The areas immediately adjacent to the EMT are used for recreational purposes. In addition, there are residential areas and a school within 0.5 mile (0.8 km) of the onshore and offshore portions of the EMT. Thus,

increased emissions of diesel exhaust would result in a health risk that exceeds acceptable standards, which would be considered a potentially significant impact.

The highest risk would be observed at the barge mooring location, because the highest emissions occur from the barge, tug and assist vessels, and the main contributor to the cancer risk results from emissions of diesel exhaust particulate matter. There is no population that could be continuously exposed to the emissions on the ocean, or on the beach and protected areas of Devereux Slough. Therefore, the most affected receptor that could be continuously exposed are the residences located at Coal Oil Point. At the most affected receptor (the residences located at Coal Oil Point are the closest downwind from the barge Jovalan mooring location), the excess cancer risk would be above the threshold of 10 cases per million, while the acute and chronic hazard indexes (HI) would remain below the HI threshold of one. Cancer risk and chronic HI would increase approximately six times with the proposed Project at maximum utilization rates.

Significant project-related health risks can be minimized through reductions in emissions either by decreased terminal utilization or emission control technologies. Mitigation Measure AQ-3a will require the installation of CARB Level 3 diesel catalysts on the barge that will substantially reduce the emissions of diesel particulate, which is classified as a carcinogen and is responsible for over 90 percent of the health risk associated with EMT operations. The installation of the catalysts on the barge diesel-powered engines will reduce the worst-case health risk to 3.86 in a million, which is well below the SBCAPCD cancer risk threshold of 10 in a million. If the number of barge trips remains at a level of 50 trips per year or less, as required under Mitigation Measure AQ-3b, the risk would not exceed the SBCAPCD excess cancer risk threshold of 10 in a million. At 50 trips per year, the excess cancer risk would be approximately nine (9) in a million. Given current production levels at the South Ellwood Field, and the prohibition of transporting crude oil defined as new production, it is likely that potential health risks will not change from the current baseline.

Summary. With the mitigation described above, the impact is reduced to a less than significant level.

CEQA FINDING NO. AQ-4

AIR QUALITY

Impact: **Impact AQ-4: Increase in Greenhouse Gas Emissions**

Class: II

Finding(s): a) Changes or alterations have been required in, or incorporated into, the Project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

b) Such changes or alterations are within the responsibility and jurisdiction of the Santa Barbara County Air Pollution Control District and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.

FACTS SUPPORTING THE FINDING(S)

If additional transportation of crude oil up to the permitted levels were to occur (88 barge trips per year), the greenhouse gases associated with barge transportation, electrical generation to pump the crude oil from the EMT to the barge, and fugitive emissions associated with barge equipment and the tanks at the EMT would increase. The primary gas emitted from the operations would continue to be CO_2 and could amount to approximately 1,311 tons per year from the barge and tugs including electricity production from the grid, using the CALISO average as obtained from the eGRID database (EPA 2007). An additional 17,147 tons per year would be associated with transport of the crude oil to markets, assuming the average time of 48 hours per one way trip (the 2007 average as reported by the CSLC database on port calls) and a tug main engine size of 4500 hp. This would be an increase over current operations of 13,871 equivalent tons per year (or 12,484 equivalent metric tonnes) of CO_2.

Total emissions of methane would be about 8.4 tons per year from fugitive emissions at the EMT and an additional 3.7 tons per year of methane from diesel fuel combustion associated with transport of the crude oil to refining terminals. This would be an increase in methane emissions over current operations of 9.2 tons per year.

Mitigation Measure AQ-4a requires the Applicant to offset any increase in GHG emissions above baseline. Annual GHG emission inventories and any required offsets will be submitted to the SBCAPCD for verification. GHG emission offsets will also be verified by an independent third-party, such as the California Climate Action Registry, as approved by the SBCAPCD.

Methods to reduce or offset GHG emissions if the crude oil transported by barge increases over current operations, would be associated with facility and Project changes, as well as programs that the Applicant could sponsor in the community. Examples would include:

- Use of bio-diesel or bio-diesel blends for diesel equipment, particularly the barge tug main engines;

- Retrofiting the barge tug main engines with more efficient, cleaner engines;
- Sponsoring the retrofit of diesel buses in the community with hybrid engines;
- Sponsoring methane capture technology projects, including methane capture from dairy and/or agricultural operations;
- Capturing methane emissions from area seeps.

With the application of a number of the recommended approaches, the GHG emissions will be reduced to below a threshold value of no net increase in GHG emissions

Summary. With the mitigation described above, the impact is reduced to a less than significant level.

CEQA FINDING NO. WQ-1

4.4 HYDROLOGY, WATER RESOURCES, AND WATER QUALITY

Impact: **Impact WQ-1: Oil Spill Impacts to Marine Water Quality**

Class: I

Finding(s):

a) Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

b) Such changes or alterations are within the responsibility and jurisdiction of the Santa Barbara County and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency

c) Specific economic, legal, social, technological or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR.

FACTS SUPPORTING THE FINDING(S)

Accidental discharge of petroleum hydrocarbons into marine waters would adversely affect marine water quality. The proposed Project would increase the risk of an oil spill beyond current baseline conditions. A large spill would meet all of the threshold criteria for a significant water-quality impact. Namely, it would introduce hydrocarbon contaminants that are persistent, would extend well beyond the project area, would impact the marine ecosystem, and would measurably depart from background

concentrations. Therefore, impacts to marine water quality from a large crude oil spill would be considered potentially significant.

Spilled oil produces several impacts to marine water quality that are explicitly addressed in the California Ocean Plan. Surface slicks limit equilibrium exchange of gases at the ocean-atmosphere interface. This reduces near-surface oxygen concentrations, particularly with the increased biochemical oxygen demand of crude-oil emulsions. As the seawater-oil emulsion mixes into the water column, turbidity would increase and toxic hydrocarbons would be released into the water column and seafloor sediments. Weathering can widely disperse tar balls, which may eventually be ingested by pelagic and benthic biota, with adverse effects. Although a surface slick can disperse within a few hours of a spill in harsh sea states, lingering effects could persist for much longer periods. For example, it took approximately two years for mussel tissue burdens of aromatic hydrocarbons to return to background levels after the Exxon Valdez Oil Spill. Although this spill was several magnitudes larger than that estimated for the proposed Project, monitoring results indicate the potential for long-term effects. Because there is an increased likelihood of a large oil spill as a result of the proposed Project, and because such a spill would result in tangible damage to marine water quality in excess of levels identified in regulatory criteria, accidental discharges of petroleum hydrocarbons into marine waters are considered a significant impact.

An oil spill trajectory analysis for the EMT is discussed in Section 4.2 of the EIR, Hazards and Hazardous Materials. Ocean impact areas were found to be similar for spills from the barge Jovalan and from the oil loading pipeline. Spills from the terminal facilities could impact the coast and beaches, depending on conditions, as far north as Point Purisima and as far south as the Channel Islands and Point Dume. The highest probability of impact from a spill at the terminal is the coastline adjacent to the terminal operations. Depending on the meteorological conditions, the MMS GNOME model estimates that up to 69 percent of spilled oil would end up on the beaches.

Spills could potentially extend substantial distances and impact ocean areas south of the Channel Islands, impacting the Channel Islands National Marine Sanctuary (CINMS). However, uncertainty about the influence of wind drift on spilled oil, limitations in the model, and the prevailing northward surface current flow suggest that oil spilled within the project area could also impact coastlines to the north. Additionally, spills occurring during transit along the barge routes could potentially affect marine water quality and sensitive marine habitats within the CINMS, Monterey Bay National

Marine Sanctuary (MBNMS), and the Gulf of the Farallones National Marine Sanctuary (GFNMS).

Implementation of Mitigation Measures MM-HM-1b through HM-9a will reduce the probability of an oil spill and the subsequent consequences to the marine environment. The identified mitigated measures will eliminate oil in the submarine loading pipeline when the line is not being used for oil transfer; the measures will enhance planning and preparedness to respond to the oil spill, and therefore, these measures will reduce both the potential oil spill size and the potential for oil spills. The measures will also increase the effectiveness of an oil spill cleanup effort.

Marine water quality impacts associated with accidental oil spills are categorized as significant (Class I) because the proposed mitigation measures would not be completely effective in reducing the significant risk of a spill, nor will they adequately eliminate the significant effect of a spill on marine resources. A large spill would violate many of the water quality standards and have a deleterious effect on the marine environment and biota. It would generate visible surface sheens, significantly reduce the penetration of natural light, reduce dissolved oxygen, degrade indigenous biota, and result in hydrocarbon contamination within the water column and marine sediments. The duration and area of the impact would be largely dictated by the size and location of the spill, and the various physical conditions of the sea at the time of the spill. Impacts would last from days to weeks and could extend for tens of kilometers.

Mitigation of water quality impacts from a major marine oil spill is largely a function of the efficacy of the spill response measures. The effectiveness of spill cleanup measures is dependent on the response time, availability and type of equipment, size of the spill, and the weather and sea state during the spill. Only some of these aspects are within the control of the spill response team. In addition, many oil spill response measures, such as dispersants, have impacts of their own.

Under the regulatory-based significance criteria, even small oil spills could be considered potentially significant. Many regulations and guidelines establish limits based on the presence of a visible sheen on the ocean surface. This criterion is reflected in the static sheen test for free oil identified in the NPDES General Permit, USCG regulations, and the aesthetic criterion C.1 in the Ocean Plan Standards. Adverse aesthetic impacts from a visible sheen would occur upon discharge of a very small amount of free-phase hydrocarbons into calm marine waters. Because sheens

are so thin, as little as 0.5 ounce (28 grams) of oil can form a rainbow sheen covering 500 ft^2 (46 m^2) of calm ocean surface area.

Although the technology has improved in recent years, complete containment and cleanup of an oil spill at sea is nearly impossible. The effectiveness of offshore containment and cleanup equipment and procedures is largely dependent on the type of oil, volume, sea state, e.g., swells, wind waves, chop, etc., and proper use of the equipment. Shoreline contamination is probable with any major spill in the area under adverse sea and weather conditions that exceed the capabilities of the containment and cleanup equipment. In the case of the Torch pipeline spill that occurred in 1997, shoreline contamination occurred even under best case weather and sea conditions for offshore containment and cleanup.

With respect to wind-wave conditions, the containment effectiveness of booms begins to lessen at a significant wave height of two feet (0.6 m). Above two feet (0.6 m), booms and skimmers are ineffective; however, it is likely that a slick would be dispersed and mixed into the water column. For long-period swell conditions, booms and skimmers can retain effectiveness in wave heights greater than two feet (0.6 m). High winds can cause some type of booms to lie over, allowing oil to splash and flow over the boom. High winds can also affect the deployment or shape of the deployment and, thus, the containment effectiveness of the boom.

Because there are limitations to thorough containment and cleanup of an offshore oil spill, potentially significant impacts (Class I) to water quality remain.

Summary. This impact remains potentially significant following application of all feasible mitigation.

CEQA FINDING NO. WQ-2

4.4 HYDROLOGY, WATER RESOURCES, AND WATER QUALITY

Impact: **Impact WQ-2: Potential Facilities Leaks and Impacts to Nearby Onshore Waterways**

Class: I

Finding(s):

a) Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

b) Such changes or alterations are within the responsibility and jurisdiction of the Regional Water Quality Control Board and not the

agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.

c) Specific economic, legal, social, technological or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR.

FACTS SUPPORTING THE FINDING(S)

A rupture or leak from the marine loading line, oil storage tanks, or other EMT infrastructure could substantially degrade surface and groundwater quality. Lease renewal would extend the risk of potential failure of the marine loading line, oil storage tanks, and other infrastructure. A spill could substantially degrade groundwater and surface water in a nearby dune swale pond, a surrounding wetland area, and Devereux Slough. Because the potential for spills already exists within the Project area, the possible presence of a spill to onshore water resources associated with the proposed Project is related to the incremental change in the size of the spill event. Small leaks or spills, which are contained and remediated quickly, may have minor or negligible impacts to onshore water resources. In contrast, large spills, or pipeline or tank ruptures, which spread to surface waters and/or groundwater, may substantially degrade water quality, with potential long-term impacts to beneficial uses and biological resources. The proposed Project increases the lifetime probability of leaks or spills. Therefore, the potential impacts associated with the proposed Project are considered significant (Class I).

Any portion of the EMT infrastructure, including the oil storage tanks, pump house, marine loading line, and intermediate pipes and valves, has the potential to rupture or leak. Oil spills could affect surface and groundwater, depending on the location and size of the spill. Under worst-case conditions, maximum estimated spill volumes of oil would be lost from the marine loading line directly into the southeast trending gully, which flows into the nearby dune swale pond, as no secondary containment is present along the pipeline. Although secondary containment is present surrounding the two 65,000-barrel (10,334-m3) oil storage tanks, the worst case scenario would involve rupture of both the oil storage tanks and the adjacent soil containment berms, as a result of severe seismically induced ground shaking. The EMT overlies the potentially active South Branch More Ranch Fault and the North Branch More Ranch Fault is located approximately 0.4 mile (0.6 kilometer) north of the project site (see Section 4.1, Geological Resources). The EMT was constructed in 1929 and seismic upgrades and

retrofitting have not been completed, making the facility more susceptible to earthquake induced damage.

Depending on the location of the containment berm breach, such a spill could flow directly into Devereux Creek, Devereux Slough, and/or the adjacent southeast trending gully that flows into the dune swale pond, located approximately 1,500 feet (450 m), 1,000 feet (300 m), and 400 to 500 feet (120 to 150 m) from the EMT, respectively. Although some of the more toxic components of oil, e.g., volatile organic compounds, would be lost rapidly due to evaporation, spills reaching any of these waterways could have significant, long-term, and widespread impacts to water quality and consequently, sensitive biological resources. Similarly, subsurface or surface spills, could result in significant, long-term contamination of groundwater, as the on-site soils are generally unconsolidated and permeable and groundwater occurs at relatively shallow depths.

Venoco currently maintains an Emergency Action Plan (EAP), which addresses spill response actions to be completed in the event of a "significant event." The EAP provides an emphasis on marine spills, and an Area Contingency Plan, Site Summary, and Site Strategy Sheet for the Devereux Slough area provided as an attachment to the EAP. The Area Contingency Plan includes brief instructions on spill containment, followed by recommended resources for constructing spill dikes (one piece of heavy equipment, sand bags, and plastic sheeting), as well as logistical details (site access, staging area, and closest boat launch). Implementation of this Emergency Action Plan would reduce potentially significant impacts associated with a larger spill.

Venoco also maintains the South Ellwood Field Oil Spill Contingency Plan (OSCP). This plan addresses inspection and maintenance, training and drills, notification procedures, and provides general oil spill response and cleanup techniques for various terrains, including for creeks and rivers. The OSCP also includes several appendices containing maps and listings of potentially affected sensitive resources such as plant and wildlife habitats, creeks and drainages, beaches, sloughs, marshes, etc., in the surrounding area.

In addition, a number of yearly and as-needed inspections are required of Venoco by the Santa Barbara County Energy Division, including:

- Annual hydrotest of the pipeline, as required by the California State Lands Commission;

- Long range guided ultrasonic screening inspection from the pump house to the sand dune area, but not in the intertidal area;

- Visual inspections of the loading line by Venoco to ensure that an episodic wave scour-induced free span does not exceed 30 feet (9 m); and

- Venoco's commitment to repair the external coating on the loading line when exposed by winter storms or as the situation warrants.

Such actions, in addition to the Mitigation Measure WQ-2a, would contribute to limiting the potential for spills and associated significant impacts.

Mitigation Measure WQ-2a would minimize potential oil spill-induced water quality impacts of a nearby dune swale pond, surrounding wetland area, Devereux Slough, and underlying groundwater resources by providing site-specific information and management practices regarding on-site drainage and protection of nearby water resources.

County Energy Division mandated annual inspections and (partial) pipeline testing, augmentation of Venoco's EAP and OSCP, and Mitigation Measure WQ-2a, implementation of a SWPPP, would reduce the severity of potential spill impacts to water resources. Regardless, because of the severity of impacts to surface water and groundwater resources associated with potential large oil spills from the EMT, impacts would remain significant (Class I) after mitigation.

Summary. This impact remains potentially significant following application of all feasible mitigation.

CEQA FINDING NO. BIO-1

BIOLOGICAL RESOURCES

Impact: **Impact BIO-1: Oil Spill Impacts to Marine Biological Resources**

Class: I

Finding(s):

a) Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

b) Such changes or alterations are within the responsibility and jurisdiction of the Santa Barbara County and not the agency making

the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency

c) Specific economic, legal, social, technological or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR.

FACTS SUPPORTING THE FINDING(S)

An accidental discharge of petroleum hydrocarbons into marine waters would adversely affect marine biological resources. At the proposed permitted operation capacity of the EMT (13,000 barrels per day [BPD]), barge trips would increase to approximately 88 trips per year. Loading operations at the EMT and loading pipeline transfer rates would increase correspondingly. However, the storage at the EMT and the capacity of the loading line and equipment would remain the same. Therefore, the size of potential spills would be the same for the proposed Project as for the current operations. Finally, the frequency and duration of trips made by offshore support vessels and the barge Jovalan would increase substantially under the proposed Project. This increased vessel traffic would increase the risk of a vessel accident and an attendant spill along the two barge routes.

The degree of impacts to marine biota from an oil spill within the Project area and along the barge routes will depend on several factors. Among them are the location, volume, rate, and type of oil that is spilled; amount of weathering, evaporation, and dispersion of oil in the water column and shoreline; and the amount of oil that is contained and cleaned immediately after the spill. Oil effects to marine biota include both mortality or sublethal effects that inhibit growth and reproduction. Oil can also bioaccumulate in certain marine species, causing histological damage, altering physiology and metabolism, and decreasing reproductive capacity.

The severity of oil spill impacts to benthic organisms can vary according to the degree of weathering of the oil. Oil that sinks quickly before it has weathered would contain appreciable amounts of toxic hydrocarbons that may be accumulated by benthic organisms, resulting in mortalities. Weathered oil, although not as toxic, could potentially smother sessile organisms associated with hard substrates. Hence, the potential impacts of spilled oil to benthic communities are considered to be significant.

When spilled oil reaches the shoreline or intertidal zone, it becomes concentrated in a narrow zone. Because of the shallow water depth, hydrocarbon concentrations can reach toxic levels. Thus, intertidal biota are exposed to higher concentrations of oil for a

longer period of time than most other marine organisms. Impacts to the intertidal biota can be caused by physical smothering and hydrocarbon toxicity.

The severity and duration of impacts to the intertidal biota are, to a large part, functions of the biological and geomorphologic characteristic of the shoreline habitat. Habitats with a low energy regime are characterized by high biological populations, high oil residence time, and high sensitivity to oil. Recovery of such areas can take several years. Gravel and mixed sand/gravel beaches have relatively small biological populations, but oil impacting these habitats is resistant to cleaning. For example, despite intensive cleanup and remediation of gravel and cobble beaches oiled by the Exxon Valdez spill in Prince William Sound, oil remained in sediments eight years after the spill. Several stretches of the coast near the EMT display characteristics that would also be resistant to oil spill remediation, such as mixed sand and cobble beaches located immediately east and west of the EMT.

After the 1969 Santa Barbara Channel oil spill, effects to several intertidal species were also recorded. Impacts included smothering of barnacles (*Chthalamus fissus*), mortality of surfgrass (*Phyllospadix torreyi*) and algae (such as *Hesperophycus harveyanus*), and reduced reproduction in the stalked (gooseneck) barnacle (*Pollicipes polymerus*). There may have been impacts on additional intertidal biota, but the lack of pre-spill data, heavy rains, and flooding at the time of the spill hampered a complete impact assessment. Nevertheless, should an oil spill reach shore, intertidal biota could experience significant impacts.

The majority of fish data regarding oil effects have been obtained in the laboratory. Field data generally consist of reports on fish kills and some measurements of sublethal effects. Field data regarding effects other than massive fish kills are extremely difficult to obtain because of the difficulty in quantitatively sampling fish populations. In laboratory studies, typical responses to toxic hydrocarbon concentrations include a brief period of increased activity, followed by reduced activity, twitching, narcosis, and eventual death. Sublethal effects include histological (tissue and cell) damage, altered physiological and metabolic patterns, decreased growth and reproduction, and vulnerability to disease (NRC 1985). Among fishes, benthic species are more sensitive than pelagic species, and intertidal species are the most tolerant. In general, early life stages of fishes, such as embryos and larvae, are more sensitive to petroleum hydrocarbons than later life stages.

Adult fish, due to their mobility, may be able to avoid or minimize exposure to spilled oil. However, there is no conclusive evidence that fish will avoid spilled oil. Egg and larval stages would also not be able to avoid exposure to spilled oil. Because fish species can be economically important and because long-term loss can result from an oil spill, impacts to fish are considered to be significant.

Marine mammals that could be impacted by an oil spill include cetaceans (whales and dolphins), pinnipeds (seals), and fissipeds (sea otters). Animals that are unable to avoid contact with oil could be impacted by fouling, inhalation, or ingestion that could result in sublethal or lethal effects.

It is unlikely that oil spills would substantially threaten cetaceans. However, a massive oil spill could result in fouling of the baleen, toxicity from ingestion, respiratory difficulties, and irritation of membranes that contact oil. Although some observations suggest that cetaceans would avoid surfacing in oil slicks by staying submerged longer, other observations suggest that some cetaceans may not avoid oil-covered waters. Oil does not tend to cling to cetacean skin as it does to the pelage (hair) of other marine mammal species. Should an oil spill occur in the project area, the species that would most likely be impacted, depending on the time of year, are the gray, blue, humpback, and fin whales. Blue, humpback, and fin whales are presently listed as endangered species.

Although seals apparently have the ability to detect and avoid oil slicks, it has been reported that breeding seals swam through oil to reach rookery beaches during the breeding season. Surface contact with oil has a much greater impact on seals than absorption of the petroleum. In controlled experiments, seals that were exposed to floating oil developed reversible eye damage (in the wild, “reversible” eye damage could significantly affect an animal’s ability to function). The project area is in a foraging area for pinnipeds, e.g., California sea lions. Oil-spill trajectory analyses indicate that oil released from a spill in the Project area can come ashore, exposing adults and subadults to potentially long term lethal and sublethal effects.

Sea otters, a threatened species, have steadily increased in numbers in the area from Purisima Point to Point Conception and have extended their range eastward. A breeding colony also resides in the Purisima Point region. An oil spill, should one occur, has the potential to impact a high number of sea otters in this region. After sea otters’ exposure to oil, death usually results from either an increase in metabolic rate, hypothermia, or inhalation of volatile vapors.

In summary, the marine mammal species that occur in the Project area exhibit varying degrees of vulnerability to oil spills. Impacts can be caused either by oil contact or by ingestion. There is evidence that cetacean species may avoid contact with oil at sea; however, pinniped species and sea otters could potentially suffer lethal and long term sublethal effects resulting in significant impacts. Onshore cleanup activities, depending on location, could disrupt pinniped haul-out and rookery areas and could also result in significant impacts. As a result, impacts to marine mammals are considered to be significant.

Oil spills pose a significant threat to marine birds. Due to the migratory nature of many bird species, the severity of oil spill impacts on marine birds would depend on the time of the year, the species present, and their numbers. Oil on a marine bird clogs and damages the fine structure of the feathers that is responsible for maintaining water repellency and heat insulation. In addition to coating by oil, marine birds are also subject to chronic, long-term effects from oil that remains in the environment. For example, small amounts of oil on a bird's plumage may be transferred to eggs during incubation. This contact has been shown to kill developing embryos.

The endangered brown pelican and California least tern could be severely impacted by an oil spill. The brown pelican, an offshore forager, is highly susceptible to oil ingestion and fouling. Effects of oil contamination on the overall population could be significant, since the species continues to recover from the effects of DDT contamination. The California least tern is a coastal inhabitant but forages offshore. It also is highly susceptible to oil spills because it skims the ocean surface for prey, with occasional diving. Should a spill occur offshore, impacts to these species, are considered to be significant and not mitigable to a level less than the significance criteria.

Oil spills can adversely affect marine turtles by toxic external contact, toxic ingestion or blockage of the digestive tract, disruption of salt gland function, asphyxiation, and displacement from preferred habitats. Although oil spills can adversely affect marine turtles, they are rarely found in the Project area. In the 23-year period from 1982 through 2004, only 20 strandings were reported on Santa Barbara County beaches. However, beginning in March of 2005, the tracks of a single sea turtle were discovered on the western portion of Santa Cruz Island. The tracks were determined to be those of a female olive ridley who returned several times, likely as part of a nesting cycle. Although attempts were made, the exact nesting locations were not discovered, and no eggs are believed to have hatched. The incident is not considered to be indicative of a northern shift in nesting sites for this species, but likely a one time event. Normal

breeding grounds for the olive ridley are located over 500 miles (152 km) south of the Channel Islands, where the sand and waters are substantially warmer.

Along the northern barge route, leatherbacks are the most frequently seen sea turtle, particularly off Monterey Bay and the Farallon Islands. They are found mainly along the continental slope over water 200 to 1,500 meters (656 to 4,921 feet) deep. These turtles originate on Papua New Guinea and other islands in the western Pacific Ocean, but adults cross the ocean to reach rich feeding grounds off central and northern California.

Although marine turtles are rare in the area of the proposed Project and along the barge routes, oil spill impacts to marine turtles are considered to be adverse and significant because of their threatened and endangered status.

Mitigation Measure BIO-1a is aimed at preventing potentially large oil spills from occurring along the loading pipeline. Rigorous pipeline inspection will identify potential pipeline failure points and serve to prevent a large oil spill. Mitigation Measure BIO-1b addresses how the Applicant will be prepared to respond to all potential oil spills, thereby reducing potential adverse impacts. The measures presented in Hazards and Hazardous Materials and Hydrology, Water Resources, and Water Quality provide improved oil spill response capabilities, oil spill containment measures, and protection of resources. With implementation of those measures, the risk to the marine environment may be reduced.

Marine water-quality and biological impacts associated with accidental oil spills are categorized as significant (Class I) because the proposed mitigation measures would not be completely effective in reducing the significant risk of a spill, nor would they adequately eliminate the significant effect of a spill on marine resources. A large spill (greater than 100 bbls [15.9 m3]) would generate visible surface sheens, significantly reduce the penetration of natural light, reduce dissolved oxygen, degrade indigenous biota, and result in hydrocarbon contamination within the water column and marine sediments. The duration and area of the impact would be largely dictated by the size of the spill. Impacts would last from days to weeks and extend for tens of kilometers.

Although the technology has improved in recent years, complete containment and cleanup of an oil spill at sea is nearly impossible. The effectiveness of offshore containment and cleanup equipment and procedures is largely dependent on the type of oil, volume, sea state, e.g., swells, wind waves, chop, etc., and proper use of the equipment. Shoreline contamination is probable with any major spill in the area under

adverse sea and weather conditions that exceed the capabilities of the containment and cleanup equipment.

Because there are limitations to thorough containment and cleanup of an offshore oil spill, potentially significant impacts (Class I) remain for benthic organisms, intertidal communities, marine mammals, marine turtles, and marine birds.

Summary. This impact remains potentially significant following application of all feasible mitigation.

CEQA FINDING NO. BIO-2

BIOLOGICAL RESOURCES

Impact: **Impact BIO-2: Oil Spill Impacts to Commercial and Recreational Fishing**

Class: I

Finding(s):

a) Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

b) Such changes or alterations are within the responsibility and jurisdiction of the Santa Barbara County and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency

c) Specific economic, legal, social, technological or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR.

FACTS SUPPORTING THE FINDING(S)

An accidental discharge of petroleum hydrocarbons into marine waters would adversely affect commercial and recreational fishing. A wide variety of fish and shellfish species are commercially harvested in the Project area. Biota residing in the intertidal and shallow subtidal habitat are vulnerable to oil spills. Several species are commercially and recreationally harvested in the intertidal zone. Sea urchins, for example, ranked first in both pounds landed and dollar value over the five-year period from 1995 to 1999. Sea urchins alone accounted for almost half (46.5 percent) of the dollar value of the commercial catch during the five years, and accounted for 41.6 percent of the total catch in biomass. Mass mortalities of invertebrates, such as sea urchins, abalone, and lobsters, were reported following the Tampico spill in Baja California. Although abalone

is not presently harvested in the immediate Project area, both sea urchins and lobsters are high-value species that are harvested commercially and recreationally in the area.

In the event of an oil spill, there could be impacts to abalone. Smothering is the most common cause of mortality and would be limited to direct contact with weathered tar balls from the oil spill. Although not high-value species, other intertidal or shallow subtidal organisms such as sea cucumbers and whelks are also harvested within the Santa Barbara Channel. Results of the oil spill trajectory analyses indicate that key areas for harvesting these species along the northern and western edges of San Miguel and Santa Rosa Islands and the coastline between Point Arguello and Point Conception may be impacted by oil spills at the Project site.

Adult fish, due to their mobility, may be able to avoid or minimize exposure to spilled oil. However, there is no conclusive evidence that fish will avoid spilled oil (NRC 1985). Egg and larval stages would also not be able to avoid exposure to spilled oil. Because losses to commercial and recreational fish resources and losses due to closure of fishing areas for most or all of a fishing season can occur, impacts to commercial and recreational fishing from oil spills are considered to be significant. Fish harvested from contaminated areas may also be reduced in value, and fishing gear can be damaged due to oil fouling, causing additional significant impacts.

Mitigation Measure BIO-1a is directed at preventing potentially large oil spills from occurring along the loading pipeline. Rigorous pipeline inspection would identify potential pipeline failure points and serve to prevent a large oil spill. Mitigation Measure BIO-1b addresses how the applicant will be prepared to respond to all potential oil spills, thereby reducing potential adverse impacts. The measures presented in Hazards and Hazardous Materials and Hydrology, Water Resources, and Water Quality provide improved oil spill response capabilities, oil spill containment measures, and protection of resources. With implementation of those measures, the risk to the marine environment and impacts to commercial and recreational fishing may be reduced.

Because there are limitations to thorough containment and cleanup of an offshore oil spill, significant impacts (Class I) remain for commercial and recreational fisheries in the intertidal and shallow subtidal zones.

Summary. This impact remains potentially significant following application of all feasible mitigation.

CEQA FINDING NO. BIO-4

BIOLOGICAL RESOURCES

Impact: **Impact BIO-4: Marine Vessel Traffic Impacts on Commercial and Recreational Fishing**

Class: II

Finding(s): a) Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

FACTS SUPPORTING THE FINDING(S)

Marine vessel traffic to and from the EMT could cause loss or damage to commercial fishing gear in the project area. Support vessels servicing the EMT use Santa Barbara harbor as the shore-based facility. The support vessel traffic from the EMT and along the barge routes crosses nearshore fishing areas, and may cause damage to fishing gear. If support vessels hit fishing gear, the gear can be damaged or lost.

In 1983, the Joint Oil/Fisheries Liaison Office, a private nonprofit service, was formed along with the Joint Oil/Fisheries Committee of South Central California to provide an inter-industry communications link and dispute-resolution/mediation process between the offshore oil and gas industry and the commercial fishing industry in the Santa Barbara Channel and Santa Maria Basin.

To reduce the conflict between support vessel traffic and the commercial fishing industry, a Vessel Traffic Corridor Program was developed by the Joint Oil/Fisheries Committee of South Central California and went into effect in August, 1984. These (voluntary) vessel traffic corridors are approximately 1,500 ft (457 m) wide. In the Santa Barbara Channel, most barges travel in the internationally designated Traffic Separation Scheme (TSS). On voyages up the coast, tank vessels are generally between 12 to 15 nm (22 to 28 km) offshore.

Given that the support vessels servicing the EMT generally use the vessel traffic corridors and the fact that there is a Joint Oil/Fisheries Liaison Office that provides dispute resolution/mediation, this impact is considered potentially significant.

Mitigation Measure BIO-4a requires vessels to follow designated traffic corridors. Potential disputes, should they arise will be minimized and resolved through the use of the existing Joint Oil/Fisheries Committee conflict resolution process.

Summary. With the mitigation described above, the impact is reduced to a less than significant level.

CEQA FINDING NO. BIO-5

BIOLOGICAL RESOURCES

Impact: **Impact BIO-5: Vessel Traffic Impacts on Marine Mammals and Turtles**

Class: II

Finding(s):

a) Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

b) Such changes or alterations are within the responsibility and jurisdiction of the California Department of Fish and Game and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency

FACTS SUPPORTING THE FINDING(S)

Increases in vessel traffic may adversely affect marine mammals and turtles. It has been reported that noises from vessels elicit a startle reaction from gray whales and mask their reception capabilities. They also reported that avoidance and approach responses vary according to whale activity. Migrating gray whales have been observed to avoid the approach of vessels to within 656 to 984 ft (200 to 300 m). Noise effects on gray whales from vessels can be expected to be limited to within 656 to 1,804 ft (200 to 550 m) of approaching vessels, to be sublethal, and temporary. However, collisions between vessels and gray whales occur regularly. Twelve collisions, resulting in six deaths of gray whales, occurred off southern California between 1975 and 1980. Young gray whales, especially, are more likely to be hit by moving vessels.

A gray whale calf was severely injured offshore Morro Bay, California, during installation of a trans-Pacific cable. The injury consisted of a severely cut tail stock, and flukes completely severed off the animal. The extent of the injury (severing of the caudal peduncle) was consistent with a propeller strike. Although the carcass of the calf was never recovered, it is unlikely that the injured calf traveled far from the location where it was observed.

The frequency and length of time such vessels remain offshore would increase substantially as a result of the proposed Project. Since collisions between vessels and

gray whales, a federally protected marine mammal species, can result in severe injury or death, collisions are considered to be a potentially significant impact.

Avoidance of marine mammals and turtles can be facilitated through training and education of vessel operators as to recognize, understand, and minimize conflict with marine species. Mitigation Measure BIO-5a establishes a marine mammal observer requirement and proposed speed controls that would substantially reduce the potential for adverse impacts to marine mammals. Therefore, potential impacts, after the implementation of Mitigation Measure BIO-5a, would be considered Class II.

Summary. With the mitigation described above, the impact is reduced to a less than significant level.

CEQA FINDING NO. BIO-7

BIOLOGICAL RESOURCES

Impact: **Impact BIO-7: Oil Spill Impacts to Onshore Biological Resources**

Class: I

Finding(s):

a) Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

b) Such changes or alterations are within the responsibility and jurisdiction of the California Department of Fish and Game and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency

c) Specific economic, legal, social, technological or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR.

FACTS SUPPORTING THE FINDING(S)

An accidental oil spill and subsequent cleanup efforts would potentially result in the loss or injury of threatened, endangered, or candidate species, the loss or degradation of functional habitat value of sensitive biological habitat, or cause a substantial loss of a population or habitat of native fish, wildlife, or vegetation.

The loss or injury of Federal- or State-listed wildlife species and the loss or degradation of upland, wetland, aquatic habitats, or sensitive biological habitat, including salt, freshwater, or brackish marsh; river mouth; coastal lagoons, estuaries, breeding habitat

designated as critical for the western snowy plover, or the injury to plants and terrestrial and aquatic wildlife through direct toxicity, smothering, and entrapment as well as through resultant cleanup efforts, would result in a potentially significant adverse impact that remains significant after mitigation (Class I).

Because the potential for spills already exists within the Project area, the potential of a spill which would affect onshore biological resources is related to the incremental increase in the oil facility activities, i.e., an increase in the number of barge loadings, associated with the proposed Project. Small leaks or spills that would be contained and remediated quickly would potentially have minor or negligible impacts on onshore biological resources. In contrast, large spills, or pipeline or tank ruptures that have the potential to spread onto larger surface areas would have the potential to substantially increase the potential for long-term impacts on biological resources. The proposed Project extends the lifetime for an incidence of leaks or spills to occur. Therefore, the impacts associated with the proposed Project are considered potentially significant. The chances of a spill occurring are discussed in Hazards and Hazardous Materials.

The pipeline from the EMT storage tanks to the offshore loading facility between the EMT and the foredunes is not buried and is located within a narrow, shallow channel. A small spill would likely spread out in the channel and be contained within the pipeline channel. However, once the channel reaches capacity, spills would likely flow downhill into the large wetland swale that is on average about 500 feet east of the pipeline. Due to the area's topography, most spills from this portion of the pipeline with sufficient volume to have overland flow would affect this dune swale habitat. Spills from the pipeline that would occur closer to the tanks would also likely affect the small wetland swale within the fence around the EMT. In addition, Devereux Slough is generally downslope of the storage tanks, and a worst-case scenario event, i.e., both tanks failing coupled with failure of the containment berms, would potentially affect wetland and aquatic resources in Devereux Slough. Emphasis is placed on wetland and aquatic habitats because of their sensitivity, proximity to the pipeline and storage tanks, and the potential for spilled oil to flow in a downslope direction and to collect in low spots. Cleanup and repair operations following a spill would result in impacts on habitat in the vicinity of the EMT and the onshore pipeline. The extent of disturbance would be determined by the amount and extent of the spill.

The effects of spilled oil on biological resources would depend on such factors as the physical and chemical properties of the oil, specific environmental conditions at the time of the spill, and the species present. Certain types of communities would be more

severely affected by an oil spill than others. Salt or fresh water marshes would be most sensitive because the biological activity is concentrated near the soil or water surface where oil would be stranded. Oil would also be potentially widely dispersed by stream or tidal flow.

An oil spill would impact vegetation both directly and indirectly. Direct effects include smothering of plants, reducing the availability of water, nutrients, and oxygen to the plant root system; this would potentially result in reduced growth or death. Vegetation recovery would potentially be slow in areas of oiled soils because of lingering toxicity or altered soil characteristics. Impacts of cleanup would potentially be more substantial than the effect of the spilled oil. Clearing or grading would potentially be required to provide access to ruptured pipelines and oiled vegetation, and soils would likely need to be removed and disposed of offsite.

Direct impacts on wildlife from oil spills include physical contact with the oil, ingestion of oil, and loss of food and critical nesting and foraging habitats. Aquatic reptiles, amphibians and birds would be the most vulnerable to oil spills. Organisms can be affected physically through smothering, interference with movements, coating of external surfaces with black coloration (leading to increased solar heat gain), and fouling of insulating body coverings (birds and mammals). Toxicity can occur via absorption through the body surface (skin, gills, etc.) or ingestion. Biological oxidation (through metabolism) can produce products more toxic than the original compounds. Acute toxicity would be lowered for fish, especially after some weathering. Sub-lethal effects include reduced reproductive success, narcosis, interference with movement, and disruption of chemosensory functions, e.g., similar to human smell or taste.

Cleanup activities that result in the removal of vegetation or excavation would require restoration of native habitat. The level of impact would depend on the size of the spill, the amount of habitat affected, and the number of individuals and types of species affected. Impacts on resident biota could be short- to long-term depending on the amount of oil spilled, environmental conditions at the time, containment and cleanup measures taken, and length of time for habitat recovery.

Spills from activities near or on the beach, or disturbances resulting from cleanup efforts within the sandy beach and foredune habitats have the potential to affect western snowy plover and California least tern, especially if a spill were to occur during the breeding seasons for these species.

Western snowy plovers occupy Devereux Slough and the adjacent beaches to the west as wintering and nesting sites. Proposed critical habitat for the western snowy plover would include the Devereux Beach. Effects of an oil spill in this area during the breeding season would potentially increase mortality of nesting plovers, chicks and fledglings depending on the time of the spill. A spill would also contaminate or increase mortality of invertebrates that are forage material for the plover, therefore resulting in indirect impacts on individual plovers and/or breeding success.

Western snowy plover populations have been decreasing throughout California. The population at Coal Oil Point Reserve has increased in recent years, however, due to successful management efforts by the Reserve's staff and volunteer docents. An accidental oil spill and cleanup activities would potentially interfere with the restoration efforts to improve the status of the species and degrade proposed critical habitat.

Direct impacts on sensitive wildlife species from oil spills include physical contact with the oil, ingestion of oil, and loss of food and critical nesting and foraging habitats. Cleanup activities that would potentially result in the disturbance of snowy plovers or California least terns, especially during the breeding season, would likely impact breeding or fledgling success. An oil spill and related cleanup activities would impact the foraging activity and habitat for the California brown pelican. Other sensitive species would also be potentially affected if a spill were to impact the beach (globose dune beetle, sandy tiger beetle) or enter Devereux Slough (Belding's savannah sparrow). Significant impacts would also result in the unlikely event that a large spill occurred during high winds or tides that would convey the spilled material towards the shoreline and spread either to the west and enter Bell Canyon (tidewater goby), or to the east and enter Goleta Slough (tidewater goby, foraging raptors).

For any of the sensitive wildlife species, the level of impact would depend on the size and location of the spill, the amount of habitat affected, and the number of individuals and species affected. Impacts on sensitive wildlife species could be short to long term depending on the amount of oil spilled, environmental conditions at the time, containment and cleanup measures taken, and length of time for habitat and sensitive species recovery.

If an oil spill from the EMT or shoreline pipeline and subsequent cleanup efforts would result in death or injury to snowy plovers, brown pelican or California least tern, the degradation of snowy plover critical habitat, or the interruption in these species'

breeding activities, it would be considered a significant adverse impact (Class I) that remains significant after mitigation.

Mitigation Measure BIO-7a would provide greater specificity to the OSCP by identifying which species would require avoidance; how to remove spilled material from particularly sensitive wildlife habitats and affected animals; how to develop and implement habitat restoration plans needed to effectively restore native plant and animal communities to pre-spill conditions; and provide monitoring effectiveness criteria. These would help minimize potential oil spill-induced impacts on biological resources, including sensitive species, sensitive species habitat, the nearby dune swale pond, surrounding wetland area, and Devereux Slough.

An oil spill that would potentially result in impacts on Federal- or State-listed wildlife species, such as the western snowy plover and California least tern, cannot be reduced below significance criteria. Although Mitigation Measure BIO-7a is intended to reduce impacts on plant communities and common wildlife species, and could reduce impacts on Federal- and State-listed species and other sensitive wildlife species and their habitats, it cannot entirely eliminate the risk of spill impacts to these and other biological resources. Revegetating with native species in areas where vegetation is removed or otherwise impacted by a spill or cleanup activities would potentially reduce significant impacts on native vegetation and wildlife habitats to below significance criteria (Class II). However, large spills that result in impacts to designated (or proposed) critical habitat, wetland and aquatic habitats, and biota, including Federal- and State-listed species would remain significant (Class I) even after mitigation.

Summary. This impact remains potentially significant following application of all feasible mitigation.

CEQA FINDING NO. CR-1

CULTURAL RESOURCES

Impact: **Impact CR-1: Adverse Impacts from Oil Spills**

Class: II

Finding(s):

a) Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

b) Such changes or alterations are within the responsibility and jurisdiction of the California Department of Fish and Game and not

the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency

FACTS SUPPORTING THE FINDING(S)

An accidental oil spill and subsequent clean-up efforts would potentially result in disturbance to and unauthorized archaeological artifact collection from CA-SBA-1327 and/or CA-SBA-2341 deposits.

No new grading, excavations, or construction would occur in association with the proposed Project. However, lease renewal would extend the use of the marine loading line. This would in turn extend the associated risk of potential failure of the line, oil storage tanks, and/or other infrastructure. Because the potential for spills already exists within the Project area, the size of a potential spill event and its consequence would not necessarily be increased. However, the facility's extended span of activity associated with the lease renewal would increase the probability for a spill to occur that could possibly impact intact cultural resources.

Small leaks or spills, which are contained and remediated quickly, would have minor or negligible impacts to adjacent archaeological resources. In contrast, large spills, or pipeline or tank ruptures that could spread over larger areas, would require more expansive containment and ground disturbances. If intact cultural remains were encountered during clean-up ground disturbances, the potential for destruction of these remains would be a significant impact (Class II) that would be reduced below its significance criteria with implementation of Mitigation Measure CR-1a.

Mitigation Measure CR-1a will provide greater specificity to the OSCP by familiarizing and training spill response personnel to be more sensitive to and identify cultural resources. This will reduce the potential for oil spill-induced impacts on potentially significant cultural resources CA-SBA-1327 and CA-SBA-2341. Qualified archaeological and Native American personnel will be capable of assessing impacts on recorded archaeological sites if ground disturbances were required.

Mitigation Measure CR-1a will reduce potential oil spill-induced impacts on cultural resources by discouraging unauthorized artifact collection. The measure will provide greater specificity to the OSCP that will minimize the potential for increased illicit artifact collection during potential oil spill clean-up activities by educating workers to the importance of preserving the location and integrity of individual archaeological artifacts and by providing monitors on site.

Summary. With the mitigation described above, the impact is reduced to a less than significant level.

CEQA FINDING NO. LU-1

LAND USE AND RECREATION

Impact: **Impact LU-1: Accidental Oil Releases Could Affect Recreational Activities**

Class: I

Finding(s):

a) Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

c) Specific economic, legal, social, technological or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR.

FACTS SUPPORTING THE FINDING(S)

A number of sensitive habitats and high quality recreational resources are located within the area that would be potentially impacted by the spread of oil from an accidental release. Shoreline and water-related uses would be disrupted by oil on the shoreline and in the water and would result in significant impacts.

Impacts from accidental oil releases could degrade the environment and preclude the use of beach areas and associated recreational activities and educational opportunities at the Coal Oil Point Reserve. The degree of impact, however, is influenced by many factors including, but not limited to, spill location, spill size, type of material spilled, prevailing wind and current conditions, the vulnerability and sensitivity of the resource, and response capability.

Spill risk is addressed in the Hazards and Hazardous Materials Section of the EIR. The greatest risk of spills occurs at the EMT, where small spills could occur during normal operations, as well as from leaks at pipe fittings and valves. The capability to immediately respond and deploy appropriate containment booming would also influence the extent of the affected area. Response capability is analyzed in the Hazards and Hazardous Materials section of the EIR.

As discussed above, the Project area provides high quality recreational opportunities for the local populace and visitors. Shoreline and water-related uses would be disrupted by oil on the beach and in the water. While not readily quantifiable, it is clear that a coastal

spill could significantly affect coastal recreation and tourism, resulting in lost commercial recreation and tourism revenues. EIR Sections 4.1, Geological Resources; 4.3, Air Quality; 4.4, Hydrology, Water Resources, and Water Quality; 4.5, Biological Resources; 4.6, Cultural, Historical, and Paleontological Resources; and 4.11, Aesthetics/Visual Resources all discuss in detail the effects of a spill on the local environmental resources.

Because it is impossible to predict with any certainty the potential consequences of spills, impacts are considered to be significant (Class I), because severe spills could have residual impacts that could affect the beach and/or recreational uses.

Implementation of those mitigation measures identified in EIR Sections 4.1, Geological Resources; 4.2, Hazards and Hazardous Materials; 4.4, Hydrology, Water Resources, and Water Quality; and 4.5, Biological Resources, will improve contingency planning and spill response.

However, even with implementation of mitigation measures for oil spill impacts, land- and water-related recreational uses may be impacted from large spills and impacts would remain significant (Class I).

Summary. This impact remains potentially significant following application of all feasible mitigation.

CEQA FINDING NO. LU-2

LAND USE AND RECREATION

Impact: **Impact LU-2: Oil Spills from the Barge Jovalan in Transit**

Class: I

Finding(s):

a) Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

c) Specific economic, legal, social, technological or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR.

FACTS SUPPORTING THE FINDING(S)

Spills that reach shore along sensitive land use areas or heavily used areas, including recreational areas, would limit or preclude such uses and result in significant adverse impacts. Depending on spill size and location, a spill could affect other shipping and

boating in the vicinity of the spill and within its area of spread. Further, depending on wind and current conditions and the size of the spill, shoreline and land- and water-recreation uses could be affected. Oil spill modeling was conducted and is presented in Section 4.2, Hazards and Hazardous Materials and Appendix C. The modeling was based on various scenarios of spill size, wind, tide, and current conditions and shows the potential extent of oil spread. Given the right conditions, most shoreline areas are vulnerable.

Spills that reach the shore would limit or preclude current uses of the area and would result in significant adverse impacts (Class I). EIR Sections 4.1, Geological Resources; 4.3, Air Quality; 4.4, Hydrology, Water Resources, and Water Quality; 4.5, Biological Resources; 4.6, Cultural, Historical, and Paleontological Resources; and 4.11, Aesthetics/Visual Resources all discuss in detail the effects of a spill on coastal environmental resources.

Because it is impossible to predict with any certainty the potential consequences of spills, impacts are considered to be significant since severe spills could have residual impacts that could affect the beach and/or recreational uses (Class I).

Implementation of those mitigation measures identified in EIR Sections 4.1, Geological Resources; 4.2, Hazards and Hazardous Materials; 4.4, Hydrology, Water Resources, and Water Quality; and 4.5, Biological Resources, will improve contingency planning and spill response.

However, even with implementation of mitigation measures for oil spill impacts, land- and water-related recreational uses along the barge routes may be impacted from large spills and impacts would remain significant (Class I).

Summary. This impact remains potentially significant following application of all feasible mitigation.

CEQA FINDING NO. VR-1

AESTHETICS VISUAL RESOURCES

Impact: **Impact VR-1: Visual Effects from the Increased Presence of the Barge Jovalan**

Class: I

Finding(s): c) Specific economic, legal, social, technological or other considerations, including provision of employment opportunities

for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR.

FACTS SUPPORTING THE FINDING(S)

The barge Jovalan currently makes approximately two trips to the EMT per month for loading. Under the proposed Project, the barge Jovalan could be present at the EMT approximately seven times per month. The increased visual presence of the barge Jovalan would be considered a significant impact.

The proposed Project would continue ongoing operations at the EMT. The EMT was constructed in 1929 and the barge Jovalan has been transporting crude oil from the terminal since the 1980s. Both the EMT and the barge Jovalan have been part of the visual character of the project area for many years. While operation of the EMT would seem inconsistent with public policies, goals, plans, laws, regulations or other directives concerning visual resources, it operates as a legal, non-conforming use (see Section 4.7, Land Use, Planning, and Recreation).

Implementation of the proposed Project would not cause a noticeable visible change in the onshore operations of the EMT. No new facilities or modifications to facilities are proposed. Night lighting does not affect neighboring land uses and would not change.

Implementation of the lease renewal could allow Venoco to continue barging crude oil from the EMT up to the permitted limits. Over time, this could mean that the number of trips that the barge Jovalan makes to the EMT could increase from approximately two per month to a little more than seven per month (no more than 88 times per year). The barge is currently visible from the beach and bluffs approximately every 15 days. Under the proposed Project, the barge would be visible approximately every four days.

While the EMT operates as a legal, non-conforming use, it is not located in an industrial port area frequented by barges and tankers. The barge Jovalan moored 2,600 ft (792 m) offshore is a visually dominant industrial feature in an area recognized for its aesthetic and recreational value. Under the proposed Project, the more than three-fold increase in the presence of the barge in a highly sensitive coastal viewshed is considered a significant impact.

No mitigation measures have been identified that would reduce the level of this impact.

Summary. This impact , therefore, remains potentially significant (Class I).

CEQA FINDING NO. VR-2

AESTHETICS VISUAL RESOURCES

Impact: **Impact VR-2: Visual Effects from Accidental Oil Spills at or Near the EMT**

Class: I

Finding(s):

a) Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

c) Specific economic, legal, social, technological or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR.

FACTS SUPPORTING THE FINDING(S)

This analysis considers the occurrence of accidental spills at or near the EMT. In general, the potential impacts resulting from such an occurrence would tend to degrade the visual quality of the water and shoreline. The degree of impact is influenced by factors including, but not limited to, location, spill size, type of material spilled, prevailing wind and current conditions, the vulnerability and sensitivity of the shoreline, and effectiveness of early containment and cleanup efforts.

Spill risk and response capability are addressed in Section 4.2, Hazards and Hazardous Materials. The greatest risk of spills occurs at the EMT, where small spills could occur during normal operations, as well as from leaks at pipe fittings and valves. Generally, small leaks and spills (up to 10 bbls [1.6 m3]) could be contained with contingency measures employed at the EMT. Visually, oiling conditions could range from light oiling, which appears as a surface sheen, to heavy oiling, including floating lumps of tar. Heavy crude oil may disappear over a period of several days, with remaining heavy fractions floating at or near the surface in the form of mousse, tarballs, or mats, and lasting from several weeks to several months. Therefore, the presence of oil on the water would change the color and, in heavier oiling, textural appearance of the water surface. Oil on shoreline surfaces or nearshore marsh areas would cover these surfaces with a brownish-blackish, gooey substance.

Such oiling would result in a negative impression of the highly sensitive viewshed. The public would react negatively to its visual effects. Without rapid containment by immediate booming and cleanup, the visual effects of even a small spill of up to 10 bbls (1.6 m3) can leave residual impacts, and they can be significant (Class I).

The impact of a spill could last for a long period of time, depending on the level of physical impact and cleanup effectiveness. Even in events where light oiling would disperse rapidly, significant impacts are expected. In events where medium to heavy oiling occurs over a widespread area, and where first response cleanup efforts are not effective, leaving residual effects of oiling, significant impacts (Class I) would be expected. The physical effort involved in cleanup, including the equipment used, would contribute to a negative impression of the environment and the visual impact. It is impossible to predict with any certainty the potential consequences of spills; therefore, visual impacts can be considered to be significant (Class I).

Implementation of those measures identified for Hazards and Hazardous Materials; Hydrology, Water Resources, and Water Quality; and Biological Resources, for contingency planning and spill response would be required. The measures presented in these sections provide improved oil spill capabilities, oil spill containment measures, and protection of resources. However, even with implementation of those measures, the potential impacts to the visual environment would remain significant.

Summary. This impact remains potentially significant following application of all feasible mitigation.

CEQA FINDING NO. VR-3

AESTHETICS/VISUAL RESOURCES

Impact: **Impact VR-3: Visual Effects from Accidental Oil Spills from the Barge Jovalan in Transit**

Class: I

Finding(s):

a) Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

c) Specific economic, legal, social, technological or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR.

FACTS SUPPORTING THE FINDING(S)

Spills would change the color and texture of water and shoreline conditions. The level of public sensitivity and expectations of viewers would result in a negative impression of the viewshed and result in significant impacts, depending on the various characteristics of a spill and its residual effects.

A moderate to large spill from the barge Jovalan as it transits offshore has the potential to spread over a large area, with floating oil and oil contacting sensitive shoreline resources, given the right wind and current conditions and depending upon the size and origin of the spill.

Spills along the outer coast could result in significant impacts (Class I), where spills would be visible in the nearshore zone or at the shoreline. Spills would change the color and texture of water and shoreline conditions. The level of public sensitivity and expectations of views along the outer coast are more varied than those from the Ellwood-Devereux Coast area. Along some portions of the outer coast, public usage is low. In such areas, the public perception and expectations of viewers would not change as much as in those areas the public frequents. In high-use areas, such as coastal park and beach areas, ecological preserve areas, communities and harbors, and other areas where a higher number of viewers would be present, visual sensitivity would be high where cleanup efforts were occurring and residual effects remain following the conclusion of such efforts.

It is impossible to predict with any certainty the potential consequences of spills; therefore, visual impacts are considered potentially significant (Class I), depending on the location of the spill and its visibility to the public, either offshore or within the coastal environment.

Implementation of those measures identified for Hazards and Hazardous Materials; Hydrology, Water Resources, and Water Quality; and Biological Resources, for contingency planning and spill response would be required. The measures presented in these sections provide improved oil spill capabilities, oil spill containment measures, and protection of resources. However, even with implementation of those measures, the risk to the visual environment would be significant for oil spills (Class I).

Summary. This impact remains potentially significant following application of all feasible mitigation.