

1 4.4 HAZARDS AND HAZARDOUS MATERIALS

2 This Section describes the environmental setting and impacts related to hazards and
 3 hazardous materials, primarily related to accidental releases of fuel, oil, or hydraulic fluids
 4 from the sand mining barges and tugs used for the proposed San Francisco Bay and Delta
 5 Sand Mining Project (Project). The Project would extend existing operations by Hanson
 6 Marine Operations (Hanson) and Jerico Products, Inc./Morris Tug & Barge (Jerico) (the
 7 applicants) for another 10 years. For discussion related to issues associated with existing
 8 environmental contamination, refer to Section 4.3, Hydrology and Water Quality.
 9 Regarding potential human health effects of air emissions, see Section 4.5, Air Quality.

10 4.4.1 Environmental Setting

11 Vessel Traffic

12 Many types of marine vessels call at terminals in the San Francisco Bay Area (Bay Area),
 13 including passenger vessels, cargo vessels, tankers, tow/tug vessels, dry cargo barges,
 14 and tank barges. Table 4.4-1 presents information on vessel visits to the Bay Area during
 15 2006 (U.S. Army Corps of Engineers [ACOE] 2006). The numbers in Table 4.4.1
 16 represent inbound transits, and numbers for outbound transits are approximately the
 17 same. A vessel that visits multiple terminals is counted at each terminal. With the
 18 exception of San Francisco Harbor, these numbers do not reflect vessel traffic transits
 19 originating in the Bay. Excluding San Francisco Harbor, 40,890 vessels called at
 20 terminals in the Bay Area in 2006. Of these, 3,639 vessels transited the Carquinez Strait.

21 **Table 4.4-1. Inbound Vessel Traffic in San Francisco Bay (2006)**

Location	Type of Vessel					Total Number of Vessels
	Passenger & Cargo	Tanker	Tow or Tug	Dry Cargo Barge	Tank Barge	
San Francisco Bay Entrance	2,810	804	352	9	410	4,385
San Francisco Harbor	<38,825> ¹	1	426	218	68	713 ¹
Redwood City Harbor	40	-	130	24	5	199
Oakland Harbor	9,134	5	1,719	217	435	11,510
Richmond Harbor	133	428	4,754	256	1,587	7,158
San Pablo Bay and Mare Island Strait	10,053	465	1,588	708	472	13,286
Carquinez Strait	465	446	1,776	538	414	3,639
Total	22,635¹	2,149	10,745	1,970	3,391	40,890¹

Note: 2006 is the full year prior to the 2007 issuance of the Project Notice of Preparation as described in Section 1.2.5, Definition of Baseline and Future Conditions.

¹ 38,825 passenger and cargo vessels were counted as vessel traffic generated within the Bay; these are not counted as inbound vessel traffic at the San Francisco Bay entrance.

Source: ACOE 2006

1 **Spill Response Capability**

2 Marine terminals and all vessels calling at marine terminals are required to have spill
3 response plans and a certain level of initial response capability. However, it is not
4 economically feasible or practical for terminal or vessel operators to have their own
5 equipment to respond to more than minor spills. Therefore, operators must rely on
6 pooled or contract capabilities to handle larger spill events.

7 **Major Vessel Incidents Inside and Outside of the Bay**

8 In 1971, a collision of the Oregon Standard and the Arizona Standard occurred in heavy
9 fog under the Golden Gate Bridge, resulting in a spill of approximately 27,600 barrels
10 [bbls] of heavy fuel oil. Spilled oil impacted the outer coast as far north as Point Reyes
11 and to the south near San Gregorio Beach in San Mateo County.

12 In 1984, the chemical tanker Puerto Rican experienced an explosion in a void space
13 surrounding a cargo tank. The explosion occurred while the vessel was in open waters
14 about 8 miles west of the Golden Gate Bridge. The accident resulted in injury to crew
15 members and the release of over 30,000 bbls of lubricating oil and fuel oil, impacting the
16 Farallon Islands, Point Reyes, and Bodega Bay.

17 In 1989, the tug Standard IV with an oil barge in tow lost control while approaching its
18 berth at the Richmond Long Wharf. The barge struck the pier, destroying a catwalk and
19 parting the bow lines on the tanker Overseas Juneau. The tanker dropped an anchor,
20 hailed a passing light tug which held the tanker's bow against the dock while the tanker
21 made preparations to get underway, and transited to anchorage without any further
22 damage. The barge suffered minor damage and the Standard IV none.

23 On February 20, 1997, the partially laden T/V Overseas Philadelphia broke loose from
24 her mooring lines at the Wickland Selby marine oil terminal and drifted without power into
25 the Carquinez Strait. The terminal sustained severe damage to the fixed loading arms
26 and the concrete wharf, and reportedly 420 gallons (10 bbls) of jet fuel was released into
27 the Strait. Within approximately 8 minutes of the incident, the vessel started her engines
28 and safely anchored about 8 nautical miles from the terminal.

29 In November 2007, a container ship, the Cosco Busan, struck the Bay Bridge and
30 released almost 1,400 bbls of fuel oil into the water. Oil contamination occurred on the
31 waterfront in the Bay, and several beaches in San Francisco and in Marin County were
32 closed because of oil contamination. On-water and shoreline cleanup activities were

1 undertaken, and many oiled and closed beaches have since been cleaned up and have
2 re-opened.

3 As a result of the 2007 Cosco Busan spill, State legislation was passed in September
4 2008 that is geared to improve oil spill preparedness and to improve response
5 measures. Some of the passed legislation deals with preparedness, while other
6 legislation assigns responsibility for cleanup in the event of a spill.

7 **Bay Area Vessel Traffic Control Systems**

8 A Traffic Separation Scheme has been established by the U.S. Coast Guard (USCG)
9 outside the entrance to the Bay. It includes three directed traffic areas, each with one-way
10 inbound and outbound traffic lanes, defined separation zones, a precautionary area, and
11 a pilot boat cruising area. Within the Bay, the USCG has established seven Regulated
12 Navigation Areas (RNAs). The RNAs organize traffic flow patterns to reduce vessel
13 congestion where maneuvering room is limited. The RNAs are geared to minimize
14 meeting, crossing, and overtaking situations between large vessels in constricted
15 channels and under limited vessel speed. All larger vessels operating in the RNAs are
16 required to follow certain navigation rules that limit vessel speed and require vessel
17 engines to be ready for immediate operation under control conditions. Vessel traffic is
18 monitored by the USCG at the Vessel Traffic Center (VTC) at Yerba Buena Island.

19 Pilotage in and out of the Bay and adjacent waterways is compulsory for all vessels of
20 foreign registry and U.S. vessels not having a federally licensed pilot onboard. The
21 San Francisco Bar Pilots provide pilotage to ports in the Bay and to ports on all
22 tributaries to the Bay. Pilots board a vessel at the Golden Gate entrance and pilot the
23 vessel to its destination. When the vessel is ready to leave, a pilot reboards the vessel
24 and pilots it to sea or to other destinations within the Bay.

25 **4.4.2 Regulatory Setting**

26 **Definitions**

27 The term “hazardous material” is defined in different ways for different regulatory
28 programs. For the purposes of this analysis, the definition of “hazardous material” is that
29 defined by the California Health and Safety Code section 25501: “because of their
30 quantity, concentration, or physical or chemical characteristics, [they] pose a significant
31 present or potential hazard to human health and safety or to the environment if released
32 into the workplace or the environment.”

1 “Hazardous waste” is a subset of hazardous materials. For the purposes of this
2 analysis, the definition of hazardous waste is that defined as waste materials that,
3 “because of their quantity, concentration, or physical, chemical, or infectious
4 characteristics, may either cause, or significantly contribute to an increase in mortality or
5 an increase in serious illness, or pose a substantial present or potential hazard to
6 human health or the environment when improperly treated, stored, transported,
7 disposed of, or otherwise managed.” (Health & Saf. Code, § 25517 and Cal. Code
8 Regs., tit. 22, § 66261.2.)

9 **Laws and Regulations Governing Marine Vessels and Spills**

10 Many laws and regulations are currently in place that regulate marine vessels and
11 emergency response/contingency planning. Enforcing or executing these laws and
12 regulations are the responsibilities of various international, Federal, State, and local
13 agencies. The responsible agencies are summarized below.

14 *International Maritime Organization*

15 The agency governing the movement of goods at sea is the International Maritime
16 Organization (IMO). The IMO has established a series of international protocols.
17 Individual countries must approve and adopt these protocols before they become
18 effective. In 1990, the U.S. Environmental Protection Agency (U.S. EPA) passed the Oil
19 Pollution Act (OPA 90) and California passed the Lempert-Keene-Seastrand Oil Spill
20 Prevention and Response Act (California Senate Bill [SB] 2040) to meet IMO
21 requirements. Traffic Separation Schemes must be approved by the IMO, and they
22 have been approved for entrances to the Bay and Santa Barbara Channel.

23 The IMO adopted an amendment to the International Convention for Safety of Life at
24 Sea (SOLAS) with provisions entitled “Special Measures to Enhance Maritime Safety,”
25 which became effective in 1996. These provisions allow for operational testing during
26 port State examinations to ensure that masters and crews for both U.S. and
27 international vessels are familiar with essential shipboard procedures relating to ship
28 safety. The USCG Marine Safety Office conducts these port State examinations as part
29 of their vessel inspection program.

30 *Federal Agencies*

31 There are a number of Federal laws and agencies that regulate marine vessels. These
32 laws address, among other things, design and construction standards, operational
33 standards, and spill prevention and cleanup. Regulations for implementing these laws are

1 contained primarily in Title 33 (Navigation and Navigable Waters), Title 40 (Protection of
2 Environment), and Title 46 (Shipping) of the Code of Federal Regulations (CFR).

3 OPA 90, identified above, was enacted to expand prevention and preparedness
4 activities, improve response capabilities, ensure that shippers and oil companies pay
5 the costs of spills that occur, and establish an expanded research and development
6 program. All facilities and vessels that have the potential to release oil into navigable
7 waters are required by OPA 90 to have up-to-date oil spill response plans and to have
8 submitted them to the appropriate Federal agency for review and approval. Of particular
9 importance in OPA 90 is the requirement for vessels to demonstrate that they have
10 sufficient response equipment under contract to respond to and clean up a worst-case
11 spill. Other key laws addressing oil pollution include:

- 12 • Federal Water Pollution Control Act of 1972;
- 13 • Clean Water Act of 1977 (CWA);
- 14 • Water Quality Act of 1987;
- 15 • Act of 1980 to Prevent Pollution from Ships;
- 16 • Resource Conservation and Recovery Act (RCRA) of 1978;
- 17 • Hazardous and Solid Waste Act of 1984; and
- 18 • Refuse Act of 1899.

19 Responsibilities for implementing and enforcing the Federal regulations addressing
20 vessels and pollution control fall to a number of agencies, as described below.

21 **United States Coast Guard.** The USCG, through Title 33 (Navigation and Navigable
22 Waters) and Title 46 (Shipping) of the CFR, is the Federal agency responsible for
23 vessel inspection, marine terminal operations safety, coordination of Federal responses
24 to marine emergencies, enforcement of marine pollution statutes, marine safety
25 (navigation aids, etc.), and operation of the National Response Center (NRC) for spill
26 response. It is the lead agency for offshore spill response. The USCG implemented a
27 revised vessel-boarding program in 1994 designed to identify and eliminate
28 substandard ships from U.S. waters. The program pursues this goal by systematically
29 targeting the relative risk of vessels and increasing the boarding frequency on high-risk
30 (potentially substandard) vessels. Each vessel's relative risk is determined through the
31 use of a matrix that factors in the vessel's flag, owner, operator, classification society,
32 vessel particulars, and violation history. Vessels are assigned a boarding priority from
33 I to IV, with priority I vessels being the potentially highest risk.

1 The Coast Guard and Marine Transportation Act of 2004 amended the OPA 90 to
2 require owners and operators of all non-tank vessels (vessels not designed to carry oil
3 as cargo) to prepare and submit a plan for responding to a worst case oil spill from their
4 vessels. A non-tank vessel under the Act is defined as a self-propelled vessel of
5 400 tons or greater that operates on the U.S. navigable waters carrying oil of any kind
6 for its main propulsion. Any vessel meeting the criteria was to submit a non-tank vessel
7 response plan (NTVRP) to the USCG by August 8, 2005.

8 **United States Environmental Protection Agency.** The U.S. EPA is responsible for
9 the National Contingency Plan and acts as the lead agency in response to an onshore
10 spill. The U.S. EPA also serves as co-chair of the Regional Response Team, which is a
11 team of agencies established to provide assistance and guidance to the on-scene
12 coordinator (OSC) during the response to a spill. The U.S. EPA also regulates disposal
13 of recovered oil and is responsible for developing regulations for Spill Prevention,
14 Control, and Countermeasures (SPCC) Plans. SPCC Plans are required for non-
15 transportation-related onshore and offshore facilities that have the potential to spill oil
16 into waters of the United States or adjoining shorelines.

17 As of December 19, 2008, the U.S. EPA requires all commercial vessels of 79 feet or
18 more in length to secure a Vessel General Permit (VGP) for oil and other pollutant
19 discharges incidental to normal operation, under the CWA's National Pollution
20 Discharge Elimination System (NPDES). The VGP is a set of requirements including
21 Best Management Practices (BMPs) that addresses 28 types of vessel discharges for
22 the purpose of minimizing their impact on surrounding waters. Compliance with the VGP
23 includes requirements for material storage, environmental controls, routine vessel
24 inspections, corrective actions, and recordkeeping.

25 **National Oceanic and Atmospheric Administration (NOAA).** NOAA provides
26 scientific support for response and contingency planning, including assessment of the
27 hazards that may be involved. The movement and dispersion of oil and hazardous
28 substances is evaluated through trajectory modeling, and information on the sensitivity
29 of coastal environments to oil and hazardous substances is reported. NOAA provides
30 expertise on living marine sources and their habitats, including endangered species,
31 marine mammals, and National Marine Sanctuary ecosystems. It also provides
32 information on meteorological, hydrological, and oceanographic conditions for marine,
33 coastal, and inland waters, and tide and circulation data for coastal waters.

1 **U.S. Army Corps of Engineers.** The ACOE is responsible for reviewing all aspects of a
2 project and/or spill response activities that could affect navigation. The ACOE has
3 specialized equipment and personnel for maintaining navigation channels, removing
4 navigation obstructions, and accomplishing structural repairs.

5 *State Agencies*

6 **California Department of Fish and Game (CDFG).** The Office of Oil Spill Prevention
7 and Response (OSPR) was created within the CDFG to adopt and implement regulations
8 and guidelines for spill prevention, response planning, and response capability. Final
9 regulations regarding oil spill contingency plans for vessels and marine facilities were
10 issued in November 1993, and last updated in October 2002. These regulations are
11 similar to, but more comprehensive than, the Federal regulations. The regulations require
12 that tank vessels, barges, and marine facilities develop and submit their comprehensive
13 oil spill response plans to OSPR for review and approval. OSPR's regulations require that
14 marine vessels be able to demonstrate that they have the necessary response capability
15 on hand or under contract to respond to specified spill sizes, including a worst-case spill.
16 SB 2040 established financial responsibility requirements and required that Applications
17 for Certificate of Financial Responsibility be submitted to OSPR. California's requirement
18 for financial responsibility exceeds the Federal requirements.

19 Specifically, OSPR requires that all self-propelled, non-tank vessels of 300 tons gross
20 weight or greater have a California Nontank Vessel Contingency Plan (CANTVCP)
21 prepared and submitted in accordance with the provisions set forth in Title 14 of the
22 California Code of Regulations (CCR). Non-self-propelled non-tank vessels that do not
23 carry any oil are exempt. The provisions specify that the owner/operator of a covered
24 non-tank vessel have contracted resources to respond to the reasonable worst case
25 spill within a specific time frame. A reasonable worst case spill is defined as a spill equal
26 to the total volume of the largest fuel tank on the non-tank vessel. Fleet contingency
27 plans are permissible for an owner/operator who has a number of non-tank vessels
28 operating the same or substantially the same routes in marine waters.

29 **San Francisco Bay Conservation and Development Commission (BCDC).** BCDC is
30 responsible for carrying out the provisions of the San Francisco Bay Plan, (Bay Plan)
31 and, as the federally-designated state coastal management agency for the
32 San Francisco Bay segment of the California coastal zone, has authority under the
33 federal Coastal Zone Management Act to ensure that federal projects and activities are
34 consistent with the policies of the Bay Plan and state law. The Bay Plan ~~which~~ includes
35 Navigational Safety and Oil Spill Prevention findings and policies that recognize the

1 importance of navigational safety to the region’s water related industries, that marine
2 accidents can result in spills of hazardous materials that can adversely affect Bay
3 resources, and the importance of oil spill response plans and appropriate and
4 accessible spill response equipment as parts of effective oil spill response strategies.
5 Policies call for the removal of physical obstacles to navigation to the extent feasible,
6 compliance on the part of marine facilities projects with OSPR, USCG, and other
7 organization oil spill contingency plan requirements, and the encouragement of major
8 facility owners, ACOE, and NOAA to conduct up-to-date shipping channel surveys.

9 **Hazardous Materials and Hazardous Waste Transportation and Clean-up**

10 *Federal*

11 The U.S. Department of Transportation (DOT) has developed regulations pertaining to
12 the transport of hazardous materials and hazardous wastes by all modes of
13 transportation. The DOT regulations specify packaging requirements for different types
14 of materials. The U.S. EPA has also promulgated regulations for the transport of
15 hazardous wastes. These more stringent requirements include tracking shipments with
16 manifests to ensure that wastes are delivered to their intended destinations. Applicable
17 Federal regulations are contained primarily in Titles 40 and 49 of the CFR.

18 *State*

19 The California Environmental Protection Agency (CalEPA) establishes regulations
20 governing the use of hazardous materials in the State. The Office of Emergency
21 Services (OES) coordinates State and local agencies and resources for educating,
22 planning, and warning citizens of hazardous materials, hazardous materials
23 emergencies, including organized response efforts in case of emergencies. The
24 California Highway Patrol (CHP) and the California Department of Transportation
25 (Caltrans) are the State enforcement agencies for hazardous materials transportation
26 regulations. Transporters of hazardous materials and waste are responsible for
27 complying with all applicable packaging, labeling, and shipping regulations.

28 **Department of Toxic Substances Control.** Within CalEPA, the Department of Toxic
29 Substances Control (DTSC) has primary regulatory responsibility for hazardous waste
30 management and cleanup. Requirements place “cradle-to-grave” responsibility for
31 hazardous waste disposal on hazardous waste generators. Generators must ensure
32 that their wastes are disposed of properly. Enforcement of regulations is delegated to
33 local jurisdictions that enter into agreements with DTSC for the generation, transport,
34 and disposal of hazardous materials under the authority of the Hazardous Waste

1 Control Law. State regulations applicable to hazardous materials are contained in
2 Title 22 of the CCR. Title 26 of the CCR is a compilation of those sections or titles of the
3 CCR that are applicable to hazardous materials management.

4 **Hazardous Materials Management Plans**

5 State and Federal laws require detailed planning to ensure that hazardous materials are
6 properly handled, used, stored, and disposed of, and, in the event that such materials are
7 accidentally released, to prevent or to mitigate injury to health or the environment.
8 California's Hazardous Materials Release Response Plans and Inventory Law (Health &
9 Saf. Code, Div. 20, Ch. 6.95), sometimes called the "Business Plan Act," aims to minimize
10 the potential for accidents involving hazardous materials and to facilitate an appropriate
11 response to hazardous materials emergencies. The law requires businesses that use
12 hazardous materials to provide inventories of those materials to designated emergency
13 response agencies, to illustrate on a diagram where the materials are stored on-site, to
14 prepare an emergency response plan, and to train employees to use the materials safely.

15 **Worker Safety**

16 Occupational safety standards exist in Federal and State laws to minimize worker safety
17 risks from both physical and chemical hazards in the workplace. The California Division
18 of Occupational Safety and Health (better known as Cal/OSHA) is responsible for
19 developing and enforcing workplace safety standards and assuring worker safety in the
20 handling and use of hazardous materials. Among other requirements, Cal/OSHA
21 obligates many businesses to prepare Injury and Illness Prevention Plans and Chemical
22 Hygiene Plans. The Hazard Communication Standard requires that workers be informed
23 of the hazards associated with the materials they handle. For example, manufacturers
24 are to appropriately label containers, Material Safety Data Sheets are to be available in
25 the workplace, and employers are to properly train workers.

26 **4.4.3 Significance Criteria**

27 A potentially significant hazards and hazardous materials impact exists if:

- 28 • Current or future operations are not consistent with Federal, State, or local
29 regulations;
- 30 • Any facility or operation, existing or proposed, does not conform to its
31 contingency plans or other hazard or risk-related plans that are in effect;

- 1 • The potential exists for fires, explosions, releases of flammable or toxic materials,
2 or any other accidents that could cause injury or death to members of the public; or
- 3 • Existing and proposed emergency response capabilities are not adequate to
4 mitigate emergency conditions the project has the potential to cause.

5 **4.4.4 Impact Analysis and Mitigation**

6 Potential Project-related hazards include accidental releases of fuel, oil, or hydraulic fluids
7 from the sand mining barges and tugs. The Applicants are required by law to follow all
8 applicable hazards and hazardous materials regulations and applicable plans for the use,
9 transportation, and disposal of hazardous materials. Table 4.4-3, located at the end of
10 Section 4.4.4, summarizes impacts for the hazards and hazardous materials issue area.

11 **Impact HAZ-1: Potential for accidental leak or spill of hazardous materials**

12 **The proposed Project includes the routine use of hazardous materials that could**
13 **create a significant hazard to the public or environment if accidentally spilled or**
14 **released (Potentially Significant, Class II).**

15 The same sand mining barges and tugboats currently used by the Applicants would be
16 used to conduct sand mining operations under the proposed Project. Hazardous
17 materials associated with operations of barges with dredging equipment and tug boats
18 include fuel, lubricants, coolants, and other materials. These materials are considered
19 hazardous, and a significant impact may occur if they are accidentally released to the
20 environment, as may occur due to equipment malfunction or an accident.

21 Hanson and Jerico have provided written inventories of hazardous materials carried on
22 the sand mining barges and tugs. These are summarized in Table 4.4-2. Quantities are
23 estimates provided by Hanson and Jerico, and may vary at any given time.

24 In accordance with Title 14 of the CCR, Foss Maritime Company (Foss), which, under
25 contract to Hanson, operates the vessels used in Hanson's sandmining operations, and
26 Jerico, are each required to have a current CANTVCP because they operate at least
27 one non-self-propelled non-tank vessel that carries oil. Foss has a current CANTVCP
28 and Letter of Approval from the OSPR (control # 08-05-0619) that applies to the vessels
29 American River (DS-10) and Sand Merchant (TS&G 230) used by Hanson. By
30 complying with the regulation, Foss is effectively mitigating the risk of accidental
31 releases of hydraulic fluids, solvents, oils, and residual fluids present on its sand mining
32 barges, because they have demonstrated adequate measures to prevent spills and
33 adequate preparation to address any spill that may occur.

1 **Table 4.4-2. Potentially Hazardous Materials on Board Sand Mining Barges and**
 2 **Tugs¹**

Material	Hanson barges	Hanson tugs	Jerico tugs ²
Diesel Fuel	3,150 gal	4,356 gal	9,000 gal
Lubrication Oils	147 gal	187 gal	200 gal
Hydraulic Oils	298 gal	57 gal	200 gal
WD-40 Lubricant	none reported	none reported	16 oz
Degreaser spray	none reported	none reported	16 oz
Engine coolant	none reported	10 gal	none reported
Fuel additive	6 gal	2 gal	none reported
Acrylic polysiloxide marine coating and primer	12 gal	2 gal	none reported
Epoxy primers, paints and coating	6 gal	none reported	20 gal
Spray paints and primers	none reported	none reported	12 oz
Coal tar paint	none reported	none reported	5 gal
Red grease heavy duty lubricant	none reported	none reported	10 lbs
Acetylene gas	300 cu ft	150 cu ft	100 lbs
Oxygen gas	none reported	none reported	100 lbs
Detergents and Soaps	3 gal	1 gal	48 oz

¹ Largest tank or container reported by operator.

² No information was provided for Jerico's barge.

3 Jerico's J5200 hopper barge has a reported length of 200 feet and is assumed to be
 4 greater than 300 gross tons. Assuming that the J5200 carries oil, it qualifies under Title
 5 14 as a covered non-tank vessel. Jerico has not yet obtained an approved CANTVCP
 6 for the J5200, but is in the process of preparing one. Jerico is therefore out of
 7 compliance with Title 14, and unprepared for a leak or spill. This is considered a
 8 significant impact (Class II).

9 Under the CWA, U.S. EPA requires all commercial vessels of 79 feet or more in length
 10 to secure a VGP that includes BMPs and corrective actions for control and containment
 11 of hazardous materials used during normal operations. Hanson and Jerico have VGPs
 12 in place that include BMPs for Discharges from Towing Vessels and Barges;
 13 implementation of these BMPs would ensure that routine operations do not have the
 14 potential for a significant discharge of hazardous materials to the Bay and Delta.

15 **Mitigation Measure (MM) for Impact HAZ-1: Potential for accidental leak or spill of**
 16 **hazardous materials**

17 **MM HAZ-1. Provide a California Non-tank Vessel Contingency Plan (CANTVCP)**
 18 **to the CSLC.** Jerico shall, within three (3) months of certification of this
 19 Environmental Impact Report, provide to the CSLC a CANTVCP, reviewed and
 20 approved by the California Department of Fish and Game Office of Oil Spill

1 Prevention and Response, demonstrating that adequate measures are in place to
 2 prevent and respond to accidental releases of hydraulic fluids, solvents, oils, and
 3 residual fluids.

4 **Rationale for Mitigation**

5 The CANTVCP requirement is designed to mitigate the risk of accidental spills and
 6 control discharge of hazardous materials under normal operating conditions.
 7 Complying with this regulatory requirement and implementation of BMPs specified in
 8 the CANTVCP and VGP would ensure that oils and other hazardous materials are
 9 properly managed and will minimize the potential for accidental releases to occur,
 10 reducing impacts to a less than significant level.

11 **Table 4.4-3. Summary of Hazards and Hazardous Materials Impacts and**
 12 **Mitigation Measures**

Impact	Mitigation Measures
HAZ-1: Potential for accidental leak or spill of hazardous materials.	HAZ-1. Provide a California Non-tank Vessel Contingency Plan (CANTVCP) to the CSLC.

13 **4.4.5 Impacts of Alternatives**

14 Under the No Project Alternative, there would be no potential for a hazard to the public
 15 or the environment related to a hazardous materials release. The Long-term
 16 Management Strategy Conformance Alternative would have the same potential for an
 17 impact as the proposed Project. With the Reduced Project Alternative, the potential for
 18 accidental spill or release of hazardous materials would be reduced, and with the
 19 Clamshell Mining Alternative, this potential may increase, due to the increased length of
 20 time required to conduct the mining operation.

21 **4.4.6 Cumulative Projects Impact Analysis**

22 Activities associated with the proposed Project could result in potentially significant
 23 impacts related to the improper use or spill of hazardous materials. These impacts could
 24 be cumulatively considerable when combined with impacts of the cumulative projects
 25 identified in Table 3-3 in Section 3.0, Alternatives and Cumulative Projects. However,
 26 implementation of MM HAZ-1 reduces proposed Project hazards and hazardous
 27 materials impacts to less than significant levels, thereby reducing the cumulative
 28 contribution of the proposed Project. As a result, the proposed Project would not result
 29 in a cumulatively considerable impact related to hazards or hazardous materials and
 30 cumulative impacts would be less than significant.