STATE OF CALIFORNIA
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
DEPARTMENT OF TOXIC SUBSTANCES CONTROL

In the Matter of:	)	Docket No. 01 / 02 – 001
	)	
BERTHS 25 AND 26 PORT OF OAKLAND'S 2500 7TH STREET OAKLAND, CA 94607 SITE CODE: 201392	)))))	IMMINENT OR SUBSTANTIAL ENDANGERMENT DETERMINATION ORDER AND REMEDIAL ACTION ORDER
	)	
Respondent: PORT OF OAKLAND 530 WATER STREET P.O. BOX 2064 OAKLAND, CA 94604-2064	)))))	Health and Safety code Sections 25355.5(a)(1)(B), 25358.3(a), 58009, and 58010

I. INTRODUCTION

1.1 Parties. The California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) issues this Imminent or Substantial Endangerment Determination and Order and Remedial Action Order (Order) to the Port of Oakland (Port).

1.2 Property/Site. This Order applies to certain property within the Port of Oakland Outer harbor area. Specifically, this Order applies to the property formerly leased by McGuire Chemical Company from the Port of Oakland (hereinafter the "Site"), which corresponds to an irregular rectangular area entirely located within a 225-foot wide strip adjacent to the existing wharf face of the current terminals. The approximate length of the Site is 1855 feet and the width ranged between about 145 and 180 feet; the total Site area is approximately 6.5 acres. The Site is located along the current Berths 25/26 located at 2500 7th Street, Oakland, California, which is operated by Transbay Container Terminal, and a portion of Berth 24, which is operated by Maersk Terminal. This Order applies to the Site and the areal extent of contamination that resulted from activities on the Site. A map showing the property is attached as Exhibit A.

1.3 Jurisdiction. . This Order is issued by DTSC to the Port pursuant to its authority under Health and Safety Code sections 25358.3(a), 25355.5(a)(1)(B), 58009 and 58010.

Health and Safety Code section 25358.3(a) authorizes the DTSC to take various actions, including issuance of an Imminent or Substantial Endangerment Determination and Order, when the DTSC determines that there may be an imminent or substantial

endangerment to the public health or welfare or to the environment, because of a release or a threatened release of a hazardous substance.

Health and Safety Code section 25355.5(a)(1)(B) authorizes the DTSC to issue an order establishing a schedule for removing or remedying a release of a hazardous substance at a site, or for correcting the conditions that threaten the release of a hazardous substance. The order may include, but is not limited to requiring specific dates by which the nature and extent of a release shall be determined and the site adequately characterized, a remedial action plan prepared and submitted to the DTSC for approval, and a removal or remedial action completed.

Health and Safety Code section 58009 authorizes the DTSC to commence and maintain all proper and necessary actions and proceedings to enforce its rules and regulations; to enjoin and abate nuisances related to matters within its jurisdiction which are dangerous to health; to compel the performance of any act specifically enjoined upon any person, officer, or board, by any law of this state relating to matters within its jurisdiction; and/or on matters within its jurisdiction, to protect and preserve the public health.

Health and Safety Code section 58010 authorizes the DTSC to abate public nuisances related to matters within its jurisdiction.

II. FINDINGS OF FACT

The DTSC hereby finds:

2.1 Liability of Respondent(s). The Port is a responsible party or liable person as defined in Health and Safety Code section 25323.5. The City of Oakland, a municipal corporation, acting by and through its Board of Port Commissioners, is the present owner of the Site and leases the Site to marine terminal operators.

2.2 Physical Description of Site. The Site is located on portions of the container terminals operated by Transbay Container Terminal (Berths 25/26) and Maersk Terminal (Berth 24). The Site is located at 2500 7th Street about one-half mile south of the San Francisco-Oakland Bay Bridge toll plaza in the Outer Harbor. The Site is bounded by Berth 30 to the southwest, container yards associated with Berths 25/26 and 24 to the southeast, the northern portion of Berth 24 wharf to the northeast and the Outer Harbor to the northwest. The nearest residential areas are located about two-thirds of a mile to the southeast (see Exhibit A).

2.3 Site History. The area of concern (AOC) was occupied and operated by McGuire Chemical Company (McGuire) from approximately June 1958 until January 1974. McGuire and/or its successors used the Site as a marine chemical terminal, a bulk storage area for hazardous chemicals and for processing, handling, mixing and packaging of hazardous chemicals, including but not limited to acetone, methyl ethyl ketone (MEK), ethylene dichloride, antifreeze, petroleum products and solvents. In or about 1964, General American Transportation Company (GATC) acquired McGuire. GATC/McGuire continued to operate the marine chemical terminal and bulk storage and

processing facility until termination of the lease in January 1974. GATC/McGuire and/or its successors maintained and operated numerous tanks at the Site, ranging in size from a few thousand gallons to 425,000 gallons. The tank farm facility was dismantled shortly after the termination of the lease.

2.4 Hazardous Substances Found at the Site. Results based on limited site investigation conducted by Harding Lawson Associates (HLA) in 1998 and 1999 indicated the presence in the soil and/or groundwater of total petroleum hydrocarbons (TPH) as gasoline (TPHg), TPH as diesel (TPHd), TPH as motor oil (TPHmo) and TPH as undefined extractable hydrocarbon (TPHu). Results also indicated the presence of volatile organic compounds such as tetrachloroethylene (PCE), trichlorethene (TCE), and their breakdown products. Other VOCs found include acetone and benzene, toluene, ethylbenzene, and xylene (BTEX) compounds. Polynuclear aromatic hydrocarbons (PAHs), such as naphtalene were also found.

2.5 Health Effects.

2.5.1 Total Petroleum Hydrocarbons: Prolonged dermal contact or inhalation of petroleum hydrocarbons, in general, may cause systemic disorders.

2.5.2 Tetrachloroethylene (PCE): Short-term exposure to PCE through ingestion and inhalation may cause nausea, vomiting, headache, dizziness, drowsiness and tremors. Skin contact with liquid causes irritation and blistering. Both liquid and vapor are irritating to the eyes. Liver and kidney toxicity are potential chronic effects of exposure to PCE. PCE is listed as a known carcinogen under Proposition 65.

2.5.3 Trichloroethene (TCE): Acute exposure to sufficient concentrations of TCE may depress the central nervous system, causing headaches, dizziness, vertigo, tremors, irregular heartbeat, fatigue, nausea, vomiting and blurred vision. The vapors and liquid may cause irritation of the skin, eyes, nose and throat. Long-term effects may include liver and kidney injury. TCE was listed as a known carcinogen under Proposition 65.

2.5.4 Acetone: Moderately toxic by various routes. A skin and severe eye irritant. Human systemic effects by inhalation: changes in EEG, changes in carbohydrate metabolism, nasal effects, conjunctiva irritation, respiratory system effects, nausea and vomiting, and muscle weakness. Human systemic effects by ingestion: coma, kidney damage, and metabolic changes.

2.5.5 Benzene: Benzene is a highly volatile chemical and is readily absorbed following, dermal or inhalation exposure. Acute exposure to high concentrations of benzene may result in death following depression of the central nervous system or fatal disturbances of cardiac rhythm. Chronic, low-level exposures to benzene can result in blood disorders such as aplastic anemia and leukemia.

2.5.6 Toluene: Toluene is readily absorbed via skin, ingestion and by inhalation. The major health effect of toluene is depression of the central nervous system. This is

characterized by euphoria, abnormal gait, vomiting, tachycardia and respiratory paralysis and death following very high exposures.

2.5.7 Ethyl benzene: At sufficient vapor concentrations, ethyl benzene can induce irritation of the eyes, nose, throat and skin. At extremely high concentrations, narcosis can occur. Animal data indicate liver and kidney damage upon ingestion of concentrations averaging 500 mg/kg/day over a short-term exposure. Recent studies indicate the potential for reproductive effects, although the compound does not appear to be teratogenic (U.S. EPA, 1985).

2.5.8 Xylene: Inhalation of xylene vapors by humans may produce central nervous system disorders, with symptoms of dizziness, nausea, vomiting, drowsiness, abdominal pain, and loss of appetite. Liquid xylene and high concentrations of xylene vapors may cause eye irritation with possible damage to the cornea. Liquid aspiration of the compound may cause chemical pneumonitis, pulmonary edema, and hemorrhage in the lungs. Chronic effects are similar to acute effects but are potentially irreversible.

2.5.9 Polynuclear Aromatic Hydrocarbons (PAHs): PAHs are a class of compounds formed during the incomplete combustion of organic materials containing carbons and hydrogen. These include naphthalene, phenanthrene, among many others. PAHs are highly lipid soluble and, in general, are readily absorbed by all routes of exposure. A most significant aspect of the PAHs is that several compounds in this category have been shown to cause cancer in human or in experimental animals.

2.5.10 Arsenic: Confirmed human carcinogen producing liver tumors. Poison by subcutaneous, intramuscular, and intraperitoneal routes. Human systemic skin and gastrointestinal effects by ingestion. An experimental teratogen. Other experimental reproductive effects.

2.5.11 Copper: Questionable carcinogen with experimental tumorigenic data. Experimental teratogenic and reproductive effects. Human systemic effects by ingestion: nausea and vomiting.

2.5.12 Nickel: Confirmed carcinogen with experimental carcinogenic, neoplastigenic, and tumorigenic data. Poison by ingestion, intratracheal, intraperitoneal, subcutaneous, and intravenous routes. An experimental teratogen. Ingestion of soluble salts causes nausea, vomiting, and diarrhea. Mutation data reported. Hypersensitivity to nickel is common and can cause allergic contact dermatitis, pulmonary asthma, conjunctivitis, and inflammatory reactions around nickel-containing medical implants and prostheses.

2.5.13 Selenium: Inhalation of dust fumes can cause serious irritation of the respiratory tract. Inorganic selenium compounds can cause dermatitis. Chronic exposure can cause pallor, nervousness, depression and digestive disturbances. The first signs of acute selenium poisoning are nervousness and fear followed by vomiting, then quietness and somnolence.

2.5.14 Lead: Lead is absorbed following ingestion, inhalation of dermal contact. Lead poisoning in children is characterized by occasional vomiting, irritability, abdominal

pain, convulsions and coma. With chronic, low-level exposure to lead, learning deficits in young children may be the only measurable effect of the lead intoxication. In older children and adults, the effects of lead may be more subtle and nonspecific with decreased fertility and fatigue as the only signs. Lead has been reported to cause birth defects in animals.

2.6 Routes of Exposure. Exposure can take place via in-place contact, ingestion and inhalation of soil-borne contamination, surface-water runoff, wind dispersal, and groundwater migration.

2.7 Public Health and/or Environmental Risk. The area around the Site is an industrial area. A residential area is located approximately two (2) miles southeast of the Site. The Site faces Oakland's Outer Harbor to the west.

III. CONCLUSIONS OF LAW

3.1 The Port is a responsible party as defined by Health and Safety Code section 25323.5.

3.2 Each of the substances listed in Section 2.4 is a "hazardous substance" as defined in Health and Safety Code section 25316.

3.3 There has been a "release" and/or there is a "threatened release" of hazardous substances listed in Section 2.4 at the Site, as defined in Health and Safety Code section 25320.

3.4 The actual and threatened release of hazardous substances at the Site may present an imminent or substantial endangerment to the public health or welfare or to the environment.

3.5 Response action is necessary to abate a public nuisance and/or to protect and preserve the public health.

IV. DETERMINATION

4.1 Based on the foregoing findings of fact and conclusions of law, the DTSC hereby determines that response action is necessary at the Site because there has been a release and/or there is a threatened release of a hazardous substance.

4.2 Based on the foregoing findings of fact and conclusions of law, DTSC hereby determines that there may be an imminent or substantial endangerment to the public health or welfare or to the environment because of the release and/or the threatened release of the hazardous substances at the Site.

V. ORDER

Based on the foregoing FINDINGS, CONCLUSIONS, AND DETERMINATION, IT IS HEREBY ORDERED THAT the Port conduct the following response actions in the

manner specified herein, and in accordance with a schedule specified by DTSC as follows:

5.1 All response actions taken pursuant to this Order shall be consistent with the requirements of Chapter 6.8 (commencing with section 25300), Division 20 of the Health and Safety Code and any other applicable state or federal statutes and regulations.

5.1.1 Site Remediation Strategy. The purpose of this Order is to require for the Site: implementation of any appropriate removal actions, completion of a Remedial Investigation/Feasibility Study (RI/FS), preparation of a Remedial Action Plan (RAP), preparation of California Environmental Quality Act (CEQA) documents, and Design and Implementation of the remedial actions approved in the RAP. An overall Site investigation and remediation strategy shall be developed by the Port in conjunction with DTSC which reflects program goals, objectives, and requirements. Current knowledge of the Site contamination sources, exposure pathways, and receptors shall be used in developing this strategy.

An objective of the Site investigations shall be to identify immediate or potential risks to public health and the environment and prioritize and implement response actions using removal actions and operable units, if appropriate, based on the relative risks at the Site. The Port and DTSC shall develop and possibly modify Site priorities throughout the course of the investigations. If necessary for the protection of public health and the environment, DTSC will require additional response actions not specified in this Order to be performed as removal actions or separate operable units. Removal actions shall be implemented in accordance with a workplan and implementation schedule submitted by the Port and approved by DTSC.

5.1.2 Removal Actions. The Port shall undertake removal actions if, during the course of the RI or FS, DTSC determines that they are necessary to mitigate the release of hazardous substances at or emanating from the Site. DTSC may require the Port to submit a removal action workplan that includes a schedule for implementing the workplan for DTSC's approval. Either DTSC or the Port may identify the need for removal actions.

5.2 Remedial Investigation/Feasibility Study (RI/FS). A RI/FS shall be conducted for the Site. The RI/FS may be performed as a series of focused RI/FSs, if appropriate, based on Site priorities. The RI/FS shall be prepared consistent with the U.S. Environmental Protection Agency's "Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA," October 1988. The purpose of the RI/FS is to assess Site conditions and to evaluate alternatives to the extent necessary to select a remedy appropriate for the Site. RI and FS activities shall be conducted concurrently and iteratively so that the investigations can be completed expeditiously. Because of the unknown nature of the Site and iterative nature of the RI/FS, additional data requirements and analyses may be identified throughout the process. The Port shall fulfill additional data and analysis needs identified by DTSC; these additional data and analysis requests will be consistent with the general scope and objectives of this Order.

The following elements of the RI/FS process shall be preliminarily defined in the initial Site scoping and refined and modified as additional information is gathered throughout the RI/FS process.

(a) Conceptual Site Model identifying contamination sources, exposure pathways, and receptors;

(b) Federal, State and local remedial action objectives including applicable legal requirements or relevant and appropriate standards;

(c) Project phasing including the identification of removal actions and operable units;

(d) General response actions and associated remedial technology types; and

(e) The need for treatability studies.

5.2.1 RI/FS Objectives. The objectives of the RI/FS are to:

(a) Determine the nature and full extent of hazardous substance contamination of air, soil, surface water and groundwater at the Site.

(b) Identify all actual and potential exposure pathways and routes through environmental media;

(c) Determine the magnitude and probability of actual or potential harm to public health, safety or welfare or to the environment posed by the threatened or actual release of hazardous substances at or from the Site;

(d) Identify and evaluate appropriate response actions to prevent or minimize future releases and mitigate any releases which have already occurred; and

(f) Collect and evaluate the information necessary to prepare a RAP.

5.2.2 RI/FS Workplan. Within (30) days from the effective date of this Order , the Port shall prepare and submit to DTSC for review and approval a detailed RI/FS Workplan and implementation schedule which covers all the activities necessary to conduct a complete RI/FS of the Site .

The RI/FS Workplan shall include a detailed description of the tasks to be performed, information or data needed for each task, and the deliverables which will be submitted to DTSC. Either the Port or DTSC may identify the need for additional work.

These RI/FS Workplan deliverables are discussed in the remainder of this Section, with a schedule for implementation, and monthly reports. The RI/FS Workplan shall include all the sections and address each component listed below.

(a) **Project Management Plan.** The Project Management Plan shall define relationships and responsibilities for major tasks and project management items by the Port, its contractors, subcontractors, and consultants. The plan shall include an organization chart with the names and titles of key personnel and a description of their individual responsibilities.

(b) **Scoping Document**. The Scoping Document shall incorporate program goals, program management principles, and expectations contained in the National Contingency Plan (NCP) (40 Code of Federal Regulations (CFR) Part 300), as amended. It shall include:

(1) An analysis and summary of the Site background and the physical setting. At a minimum, the following information is required:

(A) A map of the Site, and if they exist, aerial photographs and blueprints showing buildings and structures;

(B) A description of past disposal practices;

(C) A list of all hazardous substances which were disposed, discharged, spilled, treated, stored, transferred, transported, handled or used at the Site, and a description of their estimated volumes, concentrations, and characteristics;

(D) A description of the characteristics of the hazardous substances at the Site; and

(E) If applicable, a description of all current and past manufacturing processes which are or were related to each hazardous substance.

(2) An analysis and summary of previous response actions including a summary of all existing data including air, soil, surface water, and groundwater data and the Quality Assurance/Quality Control (QA/QC) procedures which were followed;

(3) Presentation of the Conceptual Site Model;

(4) The scope and objectives of RI/FS activities;

(5) Preliminary identification of possible response actions and the data needed for the evaluation of alternatives. Removal actions shall be proposed, if needed, based on the initial evaluation of threats to public health and the environment. If remedial actions involving treatment can be identified, treatability studies shall be conducted during the characterization phase, unless the Port and DTSC agree that such studies are unnecessary as set forth in Section 5.4; and

(6) If applicable, initial presentation of the Site Remediation Strategy.

(c) **Field Sampling Plan.** The Field Sampling Plan shall include:

(1) Sampling objectives, including a brief description of data gaps and how the field sampling plan will address these gaps;

(2) Sample locations, including a map showing these locations, and proposed frequency;

(3) Sample designation or numbering system;

(4) Detailed specification of sampling equipment and procedures;

(5) Sample handling and analysis including preservation methods, shipping requirements and holding times; and

(6) Management plan for wastes generated.

(d) **Other Activities.** A description of any other significant activities which are appropriate to complete the RI/FS shall be included.

(e) **Schedule.** A schedule which provides specific time frames and dates for completion of each activity and report conducted or submitted under the RI/FS Workplan including the schedules for removal actions and operable unit activities.

5.2.3 RI/FS Workplan Implementation. The Port shall implement the approved RI/FS Workplan.

5.2.4 RI/FS Workplan Revisions. If the Port proposes to modify any methods or initiates new activities for which no Field Sampling Plan, Health and Safety Plan, Quality Assurance Project Plan or other necessary procedures/plans have been established, the Port shall prepare an addendum to the approved plan(s) for DTSC review and approval prior to modifying the method or initiating new activities.

5.3 Interim Screening and Evaluation of Remedial Technologies. If applicable, at the request of DTSC, The Port shall submit an interim document which identifies and evaluates potentially suitable remedial technologies and recommendations for treatability studies.

5.4 Treatability Studies. Treatability testing will be performed by the Port to develop data for the detailed remedial alternatives, if applicable. Treatability testing may be required to demonstrate the implementability and effectiveness of technologies, unless the Port can show DTSC that similar data or documentation or information exists. The required deliverables are: a workplan, a sampling and analysis plan, and a treatability evaluation report. To the extent practicable, treatability studies will be proposed and implemented during the latter part of Site characterization.

5.5 Remedial Investigation (RI) Report. The RI Report shall be prepared and submitted by the Port to DTSC for review and approval in accordance with the approved

RI/FS workplan schedule. The purpose of the RI is to collect data necessary to adequately characterize the Site for the purposes of defining risks to public health and the environment and developing and evaluating effective remedial alternatives. Site characterization may be conducted in one or more phases to focus sampling efforts and increase the efficiency of the investigation. The Port shall identify the sources of contamination and define the nature, extent, and volume of the contamination. Using this information, the contaminant fate and transport shall be evaluated. The RI Report shall contain:

(a) **Site Physical Characteristics**. Data on the physical characteristics of the Site and surrounding area shall be collected to the extent necessary to define potential transport pathways and receptor populations and to provide sufficient engineering data for development and screening of remedial action alternatives.

(b) **Sources of Contamination**. Contamination sources (including heavily contaminated media) shall be defined. The data shall include the source locations, type of contaminant, waste characteristics, and Site features related to contaminant migration and human exposure.

(c) **Nature and Extent of Contamination**. Contaminants shall be identified and the horizontal and vertical extent of contamination shall be defined in soil, groundwater, surface water, sediment, air, and biota. Spatial and temporal trends and the fate and transport of contamination shall be evaluated.

5.6 Baseline Health and Ecological Risk Assessment. The Port shall perform health and ecological risk assessments for the Site that meet the requirements of Health and Safety Code §25356.1.5(b). The Port shall submit a Baseline Health and Ecological Risk Assessment Report within 30 days from the approval of the final RI Report. The report shall be prepared consistent with U.S. EPA and California Environmental Protection Agency guidance and regulations, including as a minimum: Risk Assessment Guidance for Superfund, Volume 1; Human Health Evaluation Manual, December 1989; Superfund Exposure Assessment Manual, April 1988; Risk Assessment Guidance for Superfund, Volume 2, Environmental Evaluation Manual, March 1989; and all other related or relevant policies, practices and guidelines of the California Environmental Protection Agency and policies, practices and guidelines developed by U.S.EPA pursuant to 40 CFR 300.400 et seq. The Baseline Health and Ecological Risk Assessment Report shall include the following components:

(a) **Contaminant Identification**. Characterization data shall identify contaminants of concern for the risk assessment process.

(b) **Environmental Evaluation**. An ecological assessment consisting of:

(1) Identification of sensitive environments and rare, threatened, or endangered species and their habitats; and

(2) As appropriate, ecological investigations to assess the actual or potential effects on the environment and/or develop remediation criteria.

(c) **Exposure Assessment**. The objectives of an exposure assessment are to identify actual or potential exposure pathways, to characterize the potentially exposed populations, and to determine the extent of the exposure. Exposed populations may include industrial workers, residents, and subgroups that comprise a meaningful portion of the general population, including, but not limited to, infants, children, pregnant women, the elderly, individuals with a history of serious illness, or other subpopulations, that are identifiable as being at greater risk of adverse health effects due to exposure to hazardous substances than the general population.

(d) **Toxicity Assessment**. The Port shall evaluate the types of adverse health or environmental effects associated with individual and multiple chemical exposures; the relationship between magnitude of exposures and adverse effects; and related uncertainties such as the weight of evidence for a chemical's potential carcinogenicity in humans.

(e) **Risk Characterization**. Risk characterization shall include the potential risks of adverse health or environmental effects for each of the exposure scenarios derived in the exposure assessment.

5.7 Feasibility Study (FS) Report. The FS Report shall be prepared and submitted by the Port to DTSC for review and approval, no later than 30 days from approval of the final RI Report. The FS Report shall summarize the results of the FS including the following:

(a) Documentation of all treatability studies conducted.

(b) Development of medium-specific or operable-unit specific remedial action objectives, including legal requirements and other promulgated standards that are relevant.

(c) Identification and screening of general response actions, remedial technologies, and process options on a medium and/or operable unit specific basis.

(d) Evaluation of alternatives based on the criteria contained in the NCP including:

Threshold Criteria:

(1) Overall protection of human health and the environment.

(2) Compliance with legal requirements and other promulgated standards that are relevant.

Primary Balancing Criteria:

(1) Long-term effectiveness and permanence.

(2) Reduction of toxicity, mobility, or volume through treatment.

(3) Short-term effectiveness.

(4) Implementability based on technical and administrative feasibility.

(5) Cost.

Modifying Criteria:

(1) State and local agency acceptance.

(2) Community acceptance.

(e) Proposed remedial actions.

5.8 Public Participation Plan (Community Relations).

5.8.1 The Port shall conduct appropriate public participation activities given the nature of the community surrounding the Site and the level of community interest. The Port shall work cooperatively with DTSC to ensure that the affected and interested public and community are involved in DTSC's decision-making process. Any such public participation activities shall be conducted in accordance with Health and Safety Code sections 25358.7 and/or 25356.1 (e), the DTSC Public Participation Policy and Procedures Manual, and with DTSC's review and approval.

5.8.2 The Port, in coordination with DTSC, shall prepare a community profile to examine the level of the community's knowledge of the Site; the types of community concerns; the proximity of the Site to homes and/or schools, day care facilities, churches, etc.; the current and proposed use of the Site; media interest; and involvement of community groups and elected officials. The Port shall develop and submit the Public Participation Plan (PPP) for DTSC review within forty (40) days of the effective date of this Order.

5.8.3 The Port shall develop and submit fact sheets to DTSC for review and approval when specifically requested by DTSC. The Port shall be responsible for printing and distribution of fact sheets upon DTSC approval using the approved community mailing list.

5.8.4 The Port shall publish, in a major local newspaper(s), a public notice announcing the availability of the RAP for public review and comment. The public comment period shall last a minimum of thirty (30) days.

5.8.5 DTSC may require that the Port hold at least one public meeting to inform the public of the proposed activities and to receive public comments on the RAP.

5.8.6 Within two (2) weeks of the close of the public comment period, the Port shall prepare and submit to DTSC a draft response to the public comments received.

5.8.7 If appropriate, the Port shall revise the RAP on the basis of comments received from the public, and submit the revised RAP to DTSC for review and approval.

5.9 California Environmental Quality Act (CEQA). The DTSC will comply with CEQA for all activities required by this Order that are projects subject to CEQA. Upon DTSC request, the Port shall provide DTSC with any information that DTSC deems necessary to facilitate compliance with CEQA. The costs incurred by DTSC in complying with CEQA are response costs and the Port shall reimburse DTSC for such costs pursuant to Section 6.19.

5.10 Remedial Action Plan (RAP). No later than 30 days after DTSC approval of the FS Report, the Port shall prepare and submit to DTSC a draft RAP. The draft RAP shall be consistent with the NCP and Health and Safety Code section 25356.1. The draft RAP public review process may be combined with that of any other documents required by CEQA. The draft RAP shall be based on and summarize the approved RI/FS Reports, and shall clearly set forth:

(a) Health and safety risks posed by the conditions at the Site.

(b) The effect of contamination or pollution levels upon present, future, and probable beneficial uses of contaminated, polluted, or threatened resources.

(c) The effect of alternative remedial action measures on the reasonable availability of groundwater resources for present, future, and probable beneficial uses.

(d) Site-specific characteristics, including the potential for offsite migration of hazardous substances, the surface or subsurface soil, and the hydrogeologic conditions, as well as preexisting background contamination levels.

(e) Cost-effectiveness of alternative remedial action measures. Land disposal shall not be deemed the most cost-effective measure merely on the basis of lower short-term cost.

(f) The potential environmental impacts of alternative remedial action measures, including, but not limited to, land disposal of the untreated hazardous substances as opposed to treatment of the hazardous substances to remove or reduce their volume, toxicity, or mobility prior to disposal.

(g) A statement of reasons setting forth the basis for the removal and remedial actions selected. The statement shall include an evaluation of each proposed alternative submitted and evaluate the consistency of the removal and remedial actions proposed by the plan with the NCP.

(h) A schedule for implementation of all proposed removal and remedial actions.

In conjunction with DTSC, the Port shall implement the public review process specified in DTSC's Public Participation Policy and Guidance Manual. Within 10 days of closure

of the public comment period, the Port shall submit to DTSC a written Responsiveness Summary of all written and oral comments presented and received during the public comment period.

Following DTSC's review and finalization of the Responsiveness Summary, DTSC will specify any changes to be made in the RAP. The Port shall modify the document in accordance with DTSC's specifications and submit a final RAP within (15) days of receipt of DTSC's comments.

5.11 Remedial Design (RD). Within (60) days after DTSC approval of the final RAP, the Port shall submit to DTSC for review and approval a RD describing in detail the technical and operational plans for implementation of the final RAP which includes the following elements, as applicable:

(a) Design criteria, process unit and pipe sizing calculations, process diagrams, and final plans and specifications for facilities to be constructed.

(b) Description of equipment used to excavate, handle, and transport contaminated material.

(c) A field sampling and laboratory analysis plan addressing sampling during implementation and to confirm achievement of the performance objectives of the RAP.

(d) A transportation plan identifying routes of travel and final destination of wastes generated and disposed.

(e) For groundwater extraction systems: aquifer test results, capture zone calculations, specifications for extraction and performance monitoring wells, and a plan to demonstrate that capture is achieved.

(f) An updated health and safety plan addressing the implementation activities.

(g) Identification of any necessary permits and agreements.

(h) An operation and maintenance plan including any required monitoring.

(i)A detailed schedule for implementation of the remedial action consistent with the schedule contained in the approved RAP including procurement, mobilization, construction phasing, sampling, facility startup, and testing.

5.12 Deed Restrictions. If the approved remedy in the Final RAP includes deed restrictions, the Port, as the current owner of the Site shall sign and record deed restrictions approved by the DTSC within ninety (90) days of the DTSC's approval of the final RAP.

5.13 Implementation of Final RAP. Upon DTSC approval of the RD, the Port shall implement the final RAP in accordance with the approved schedule in the RD. Within

(30) days of completion of field activities, the Port shall submit an Implementation Report documenting the implementation of the Final RAP and RD.

5.14 Operation and Maintenance (O&M). The Port shall comply with all O&M requirements in accordance with the final RAP and approved RD. Within sixty (30) days of the date of DTSC's request, the Port shall prepare and submit to DTSC for approval an O&M plan that includes an implementation schedule. The Port shall implement the plan in accordance with the approved schedule.

5.15 Five-Year Review. The Port shall review and reevaluate the remedial action after a period of five years from the completion of construction and startup, and every five years thereafter. The review and reevaluation shall be conducted to determine if human health and the environment are being protected by the remedial action. Within thirty (30) calendar daysbefore the end of the time period approved by DTSC to review and reevaluate the remedial action, the Port shall submit a remedial action review workplan to DTSC for review and approval. Within sixty (60) days of DTSC's approval of the workplan, the Port shall implement the workplan and shall submit a comprehensive report of the results of the remedial action review. The report shall describe the results of all sample analyses, tests and other data generated or received by the Port and evaluate the adequacy of the implemented remedy in protecting public health, safety and the environment. As a result of any review performed under this Section, the Port may be required to perform additional work or to modify work previously performed.

5.16 Changes During Implementation of the Final RAP. During the implementation of the final RAP and RD, DTSC may specify such additions, modifications, and revisions to the RD as DTSC deems necessary to protect public health and safety or the environment or to implement the RAP.

5.17 Stop Work Order. In the event that the DTSC determines that any activity (whether or not pursued in compliance with this Order) may pose an imminent or substantial endangerment to the health or safety of people on the Site or in the surrounding area or to the environment, the DTSC may order the Port to stop further implementation of this Order for such period of time needed to abate the endangerment. In the event that the DTSC determines that any site activities (whether or not pursued in compliance with this Order) are proceeding without DTSC authorization, the DTSC may order the Port to stop further implementation of this Order or activity for such period of time needed to obtain DTSC authorization, if such authorization is appropriate. Any deadline in this Order directly affected by this Section, shall be extended for the term of the Stop Work Order.

5.18 Emergency Response Action/Notification. In the event of any action or occurrence (such as a fire, earthquake, explosion, or human exposure to hazardous substances caused by the release or threatened release of a hazardous substance) during the course of this Order, the Port shall immediately take all appropriate action to prevent, abate, or minimize such emergency, release, or immediate threat of release and shall immediately notify the DTSC's Project Manager assigned to the Site. The Port shall take such action in consultation with the DTSC's Project Manager and in accordance with all

applicable provisions of this Order. Within seven days of the onset of such an event, the Port shall furnish a report to the DTSC, signed by the Port's Project Coordinator, identified pursuant to Section 6.6.1 setting forth the events which occurred and the measures taken in the response thereto. In the event that the Port fails to take appropriate response and the DTSC takes the action instead, the Port shall be liable to the DTSC for all costs of the response action. Nothing in this Section shall be deemed to limit any other notification requirement to which the Port may be subject.

5.19 Discontinuation of Remedial Technology. Any remedial technology employed in implementation of the final RAP shall be left in place and operated by the port until and except to the extent that DTSC authorizes the Port in writing to discontinue, move or modify some or all of the remedial technology because the Port has met the criteria specified in the final RAP for its discontinuance, or because the modifications would better achieve the goals of the final RAP.

5.20 Financial Assurance. The Port shall demonstrate to DTSC and maintain financial assurance for operation and maintenance and monitoring. The Port shall demonstrate financial assurance prior to the time that operation and maintenance activities are initiated and shall maintain it throughout the period of time necessary to complete all required operation and maintenance activities. The financial assurance mechanisms shall meet the requirements of Health and Safety Code Section 25355.2. All financial assurance mechanisms are subject to the review and approval of DTSC.

5.21 Quality Assurance/Quality Control (QA/QC) Plan. All sampling and analysis conducted by the Port under this Order shall be performed in accordance with a QA/QC Plan submitted by the Port and approved by DTSC. The QA/QC Plan will describe:

(a) the procedures for the collection, identification, preservation and transport of samples;

(b) the calibration and maintenance of instruments;

(c) the processing, verification, storage and reporting of data, including chain of custody procedures and identification of qualified person(s) conducting the sampling and of a laboratory certified or approved by DTSC pursuant to Health and Safety Code section 25198; and

(d) how the data obtained pursuant to this Order will be managed and preserved in accordance with the Preservation of Documentation section of this Order.

5.22 Health and Safety Plan. The Port shall submit a Site Health and Safety Plan in accordance with California Code of Regulations, Title 8, section 5192 and DTSC guidance, which covers all measures, including contingency plans, which will be taken during field activities to protect the health and safety of the workers at the Site and the general public from exposure to hazardous waste, substances or materials. The Health and Safety Plan should describe the specific personnel, procedures and equipment to be utilized.

IV. GENERAL PROVISIONS

6.1 Project Coordinator. Within ten (10) days from the date the Order is signed by the DTSC, the Port shall submit to DTSC in writing the name, address, and telephone number of a Project Coordinator whose responsibilities will be to receive all notices, comments, approvals, and other communications from the DTSC. The Port shall promptly notify the DTSC of any change in the identity of the Project Coordinator. The Port shall obtain approval from DTSC before the new Project Coordinator performs any work under this Order.

6.2 Project Engineer/Geologist. The work performed pursuant to this Order shall be under the direction and supervision of a qualified professional engineer or a registered geologist in the State of California, with expertise in hazardous substance site cleanups. Within fifteen (15) calendar days from the date this Order is signed by the DTSC, the Port must submit: a) The name and address of the project engineer or geologist chosen by the Port; and b) in order to demonstrate expertise in hazardous substance cleanup, the résumé of the engineer or geologist, and the statement of qualifications of the consulting firm responsible for the work. The Port shall promptly notify the DTSC of any change in the identity of the Project Engineer/Geologist. Respondent(s) shall obtain approval from DTSC before the new Project Engineer/Geologist performs any work under this Order.

6.3 Monthly Summary Reports. Within thirty (30) days from the date this Order is signed by the DTSC, and on a monthly basis thereafter, the Port shall submit a Monthly Summary Report of its activities under the provisions of this Order. The report shall be received by the DTSC by the fifteenth (15th) day of each month and shall describe:

(a) Specific actions taken by or on behalf of the Port during the previous calendar month;

(b) Actions expected to be undertaken during the current calendar month;

(c) All planned activities for the next month;

(d) Any requirements under this Order that were not completed;

(e) Any problems or anticipated problems in complying with this Order; and

(f) All results of sample analyses, tests, and other data generated under this Order during the previous calendar month, and any significant findings from these data.

6.4 Quality Assurance/Quality Control (QA/QC). All sampling and analysis conducted by the Port under this Order shall be performed in accordance with QA/QC procedures submitted by the Port and approved by the DTSC pursuant to this Order.

6.5 Submittals. All submittals and notifications from The Port required by this Order shall be sent to:

Barbara J. Cook, P.E., Branch Chief
Attention: Edgardo Gillera, Hazardous Substances Scientist
Site Mitigation Branch
DTSC of Toxic Substances Control
700 Heinz Avenue, Suite 200
Berkeley, California 94710

6.6 Communications. All DTSC approvals and decisions of DTSC made regarding submittal and notifications will be communicated to the Port in writing by the Site Mitigation Branch Chief, or his/her designee. No informal advice, guidance, or suggestions or comments by DTSC regarding reports, plans, specifications, schedules, or any other writings by the Port shall be construed to relieve the Port of any obligation to obtain such written approvals.

6.7 DTSC Review and Approval. If DTSC determines that any report, plan, schedule or other document submitted for approval pursuant to this Order fails to comply with this Order or fails to protect public health or safety or the environment, DTSC may (a) return comments to the Port with recommended changes; or (b) modify the document as deemed necessary and approve the document as modified. DTSC shall not make any material modification pursuant to subsection(b) without providing the Port with prior notice and an opportunity to review and comment upon the proposed modification.

6.8 Compliance with Applicable Laws. Nothing in this Order shall relieve the Port from complying with all other applicable laws and regulations, including but not limited to compliance with all applicable waste discharge requirements issued by the State Water Resources Control Board or a California Regional Water Quality Control Board. The Port shall conform all actions required by this Order with all applicable federal, state and local laws and regulations.

6.9 The Port's Liabilities. Nothing in this Order shall constitute or be construed as a satisfaction or release from liability for any conditions or claims arising as a result of the Port's operation. Nothing in this Order is intended or shall be construed to limit the rights of any of the parties with respect to claims arising out of or relating to the deposit or disposal at any other location of substances removed from the Site.

6.11 Site Access. The Port shall provide, and/or obtain access to the Site and off-site areas to which access is necessary to fulfill this Order. Such access shall be provided to DTSC's employees, contractors, and consultants at all reasonable times. Nothing in this paragraph is intended or shall be construed to limit in any way the right of entry or inspection that the DTSC or any other agency may otherwise have by operation of any law. The DTSC and its authorized representatives shall have the authority to enter and move freely about all property at the Site at a reasonable time, subject to advance scheduling with the Port, and subject to the safety constraints of movement in an operating marine terminal, for purposes including, but not limited to inspecting records, operating logs, sampling and analytic data, and contracts relating to this Site; reviewing the progress of the Port in carrying out the term of this Order; conducting such tests as

the DTSC may deem necessary; and verifying the data submitted to the DTSC by the Port.

6.11 Sampling, Data and Document Availability. When requested by the DTSC, the Port shall make available to the DTSC, and shall provide copies of all data and information concerning contamination at the Site, including technical records and contractual documents, sampling and monitoring information and photographs and maps, whether or not such data and information were developed pursuant to this Order.

6.12 Notification of Field Activities. The Port shall permit DTSC and its authorized representatives to inspect and copy all sampling, testing, monitoring or other data generated by the Port or on the Port's behalf in any way pertaining to work undertaken pursuant to this Order. The Port shall submit all such data upon the request of DTSC. Copies shall be provided within (7) days of receipt of DTSC's written request. The Port shall inform DTSC at least (7) days in advance of all field sampling under this Order, and shall allow DTSC and its authorized representatives to take duplicates of any samples collected by the Port pursuant to this Order. The Port shall maintain a central depository of the data, reports, and other documents prepared pursuant to this Order.

6.13 Preservation and Documentation. The Port shall maintain a central repository of the data, reports, and other documents prepared pursuant to this Order. All such data, reports and other documents shall be preserved by the Port for a minimum of six (6) years after the conclusion of all activities carried out under this Order. If DTSC requests that some or all of these documents be preserved for a longer period of time, the Port shall either comply with that request, deliver the documents to DTSC or permit DTSC to copy the documents prior to destruction. The Port shall notify DTSC in writing at least ninety (90) days prior to the expiration of the six-year minimum retention period before destroying any documents prepared pursuant to this Order or ninety (90) days prior to actual destruction of the documents if the six-year minimum retention period was expired. If any litigation, negotiation, audit or other action involving the records has been started before the expiration of the six-year period, the related records shall be retained until the completion and resolution of all issues arising therefrom or until the end of the six-period, which ever is later.

6.14 Government Liabilities. The State of California shall not be liable for any injuries or damages to persons or property resulting from acts or omissions by the Port or related parties specified in Section 6.26, Parties Bound, in carrying out activities pursuant to this Order, nor shall the State of California be held as party to any contract entered into by the Port or its agents in carrying out activities pursuant to this Order.

6.15 Amendments. This Order may be amended or modified by DTSC. Such amendments or modifications shall be effective the tenth business day following the day DTSC issues the amendment or modification to the Port.

6.16 Reservation of Rights. DTSC and the Port reserve the following rights.

6.16.1 DTSC reserves its rights to pursue cost recovery under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended the California Health and Safety Code section 25360 and any other applicable section of the law.

6.16.2 Nothing in this Order shall constitute or be construed to limit or preclude DTSC from taking any action authorized by law or equity to protect public health and safety or the environment and recovering costs thereof.

6.16.3 Nothing in this Order shall constitute or be construed as a waiver of the Port's rights (including any covenant not to sue or release), with respect to any claim, cause of action or demand in law or equity that the Port may have against any 'person', as defined in Section 101(21) of CERCLA, or Health and Safety Code section 25319, that is not a signatory to this Order.

6.17 Extension Requests. If the Port is unable to perform any activity or submit any document within the time required under this Order, the Port may, prior to expiration of the time, request an extension of the time in writing. The extension request shall include a justification for the delay. All such requests shall be in advance of the date on which the activity or document is due.

6.18 Extension Approvals. If DTSC determines that good cause exists for an extension, it will grant the request and specify a new schedule in writing. The Port shall comply with the new schedule incorporated in this Order.

6.19 Liability of Costs. The Port is liable for all of DTSC's costs that have been incurred in taking response actions at the Site (including costs of overseeing response actions performed by the Port) and costs to be incurred in the future.

6.20 Payment of Costs. The DTSC may bill the Port for costs incurred in taking response actions at the Site prior to the effective date of this Order. DTSC will bill the Port quarterly for its response costs incurred after the effective date of this Order. The Port shall pay DTSC within sixty (60) days of receipt of any DTSC billing. Any billing not paid within sixty (60) days is subject to interest calculated from the date of the billing pursuant to Health and Safety Code section 25360.1. All payments made by the Port pursuant to this Order shall be by cashier's or certified check made payable to this "DTSC," and shall bear on the face the project code of the Site (201392) and the Docket number of this Order. Payments shall be sent to:

Department of Toxic Substances Control
Accounting/Cashier
400 P Street, 4th Floor
P.O. Box 806
Sacramento, California 95812-0806

A photocopy of all payment checks shall also be sent to the person designated by DTSC to receive submittals under this Order.

6.21 Severability. The requirements of this Order are severable, and the Port shall comply with each and every provision hereof, notwithstanding the effectiveness of any other provision.

6.22 Incorporation of Plans, Schedules, and Reports. All plans, schedules, reports, specifications and other documents that are submitted by the Port pursuant to this Order are incorporated in this Order upon DTSC's approval or as modified pursuant to Section 6.7, DTSC Review and Approval, and shall be implemented by the Port. Any noncompliance with the documents incorporated in this Order shall be deemed a failure or refusal to comply with this Order.

6.23 Modifications. DTSC reserves the right to unilaterally modify this Order. Any modification to this Order shall be effective upon the date the modification is signed by DTSC and shall be deemed incorporated in this Order.

6.24 Time Periods. Unless otherwise specified, time periods begin from the effective date of this Order and "days" means calendar days.

6.25 Termination and Satisfaction. Except for the Port's obligations under Sections 5.14 Operation and Maintenance (O&M), 5.15 Five-Year Review, 5.20 Financial Assurance, 6.13 Record Retention, 6.18 Liability for Costs, and 6.19 Payment of Costs, the Port's obligations under this Order shall terminate and be deemed satisfied upon the Port's receipt of written notice from DTSC that the Port has complied with all the terms of this Order.

6.26 Calendar of Tasks and Schedules. This Section is merely for the convenience of listing in one location the submittals required by this Order. If there is a conflict between the date for a scheduled submittal within this Section and the date within the Section describing the specific requirement, the latter shall govern.

Calendar of Tasks and Schedules

	TASK	SCHEDULE
1.	Identify Project Coordinator; Section 6.1;	Within (10) days from the date this Order is signed by the DTSC.
2.	Identify Project Engineer/Geologist; Section 6.2;	Within (15) days from the date of this Order is signed by the DTSC.
3.	Submit Monthly Summary Reports; Section 6.3;	Within (30) days from the date this Order is signed by the DTSC.
4.	Submit RI/FS Workplan; Section 5.2.2;	Within (30) days of the effective date of this Order.
5.	Submit Treatability Studies; Section 5.4;	If necessary, as required during site characterization or as requested by DTSC.
6.	Submit RI Report; Section 5.5;	Per approved RI/FS Workplan Schedule.
7.	Submit Baseline Risk Assessment;	Within (30) days from approval of final RI Report.

Calendar of Tasks and Schedules

	TASK	SCHEDULE
8.	Submit FS Report; Section 5.7;	Within (30) days from approval of final RI Report.
9.	Submit Public Participation Plan; Section 5.8;	Within (40) days from the date the Order is signed by DTSC.
	Submit and distribute Fact Sheets;	For projected or completed key milestones, as specified in Public Participation Plan or when requested by DTSC.
10.	Submit Initial Study and Checklist; Section 5.9;	Within (30) days after approval of final FS Report.
11.	Submit Draft RAP; Section 5.10;	Within (30) days after approval of final FS Report.
	Submit Responsiveness Summary;	Within (10) days of closure of public comment period.
	Submit Final RAP;	Within (15) days of receipt of DTSC's comments
12.	Submit Remedial Design; Section 5.11;	Within (60) days after DTSC's approval of Final RAP.
13.	Deed Restrictions; Section 5.12;	Within (90) days of approval of Final RAP.
14.	Submit Implementation Report; Section 5.13;	Within (30) days of completion of field activities.
15.	Submit O&M Workplan; Section 5.14;	Within (30) days of DTSC's request.
16.	Submit Remedial Action Review Workplan; Section 5.15	Within (30) days before end of five-year period.
17.	Submit Emergency Response Action Report; Section 5.18;	Within (7) days of an emergency response action.
18.	Provide copies of sampling, data, and documentation; Section 6.12;	Within (7) days of receipt of DTSC's request.
	Provide prior notice before conducting field sampling;	Inform DTSC (7) days in advance of sampling.
19.	Maintain central depository of data, reports, and documentation; and	Maintain central depository for a minimum of ten years after conclusion of all activities conducted pursuant to this Order.
20.	Provide prior written notice to DTSC before destroying any documentation prepared pursuant to this Order; Section 6.13.	At least six months prior to destroying any documents.

6.27 Parties Bound. This Order applies to and is binding upon the Port and its officer, directors, agents, receivers, trustees, heirs, executors, administrators, successors, and assigns, and upon any successor agency of the State of California that may have responsibility for and jurisdiction over the subject matter of this Order. No change in the ownership or corporate or business status of any signatory or of the facility or Site shall alter any signatory's responsibilities under this Order.

6.28 Effective Date. The effective date of this Order is the date when this Order is executed by DTSC.

6.29 Calendar of Tasks and Schedules. This Section is merely for the convenience of listing in one location the submittals required by this Order. If there is a conflict between the date for a scheduled submittal within this Section and the date within the Section describing the specific requirement, the latter shall govern.

VI. NOTICE OF INTENT TO COMPLY

Not later than fifteen (15) days after the effective date of this Order, the Port shall provide written notice, in accordance with paragraph 6.5 Submittals of this Order, stating whether or not the Port will comply with the terms of this Order. If the Port does not unequivocally commit to perform all of the requirements of this Order, the Port shall be deemed to have violated this Order and to have failed or refused to comply with this Order. The Port's written notice shall describe, using facts that exist on or prior to the effective date of this Order, any "sufficient cause" defenses asserted by the Port under Health and Safety Code sections 25358.3(a) and 25355.5(a)(1)(B) or CERCLA section 107(c)(3), 42 U.S.C. section 9607(c)(3).

VII. PENALTIES OF NONCOMPLIANCE

The Port may be liable for penalties of up to $25,000 for each day out of compliance with any term or condition set forth in this Order and for punitive damages up to three times the amount of any costs incurred by DTSC as a result of the Port's failure to comply, pursuant to Health and Safety Code sections 25359, 25359.2, 25359.4, and 25367(c). Health and Safety Code section 25359.4.5 provides that a responsible party who complies with this Order, or with another order or agreement concerning the same response actions required by this Order, may seek treble damages from the Port who fails or refuses to comply with this Order without sufficient cause.

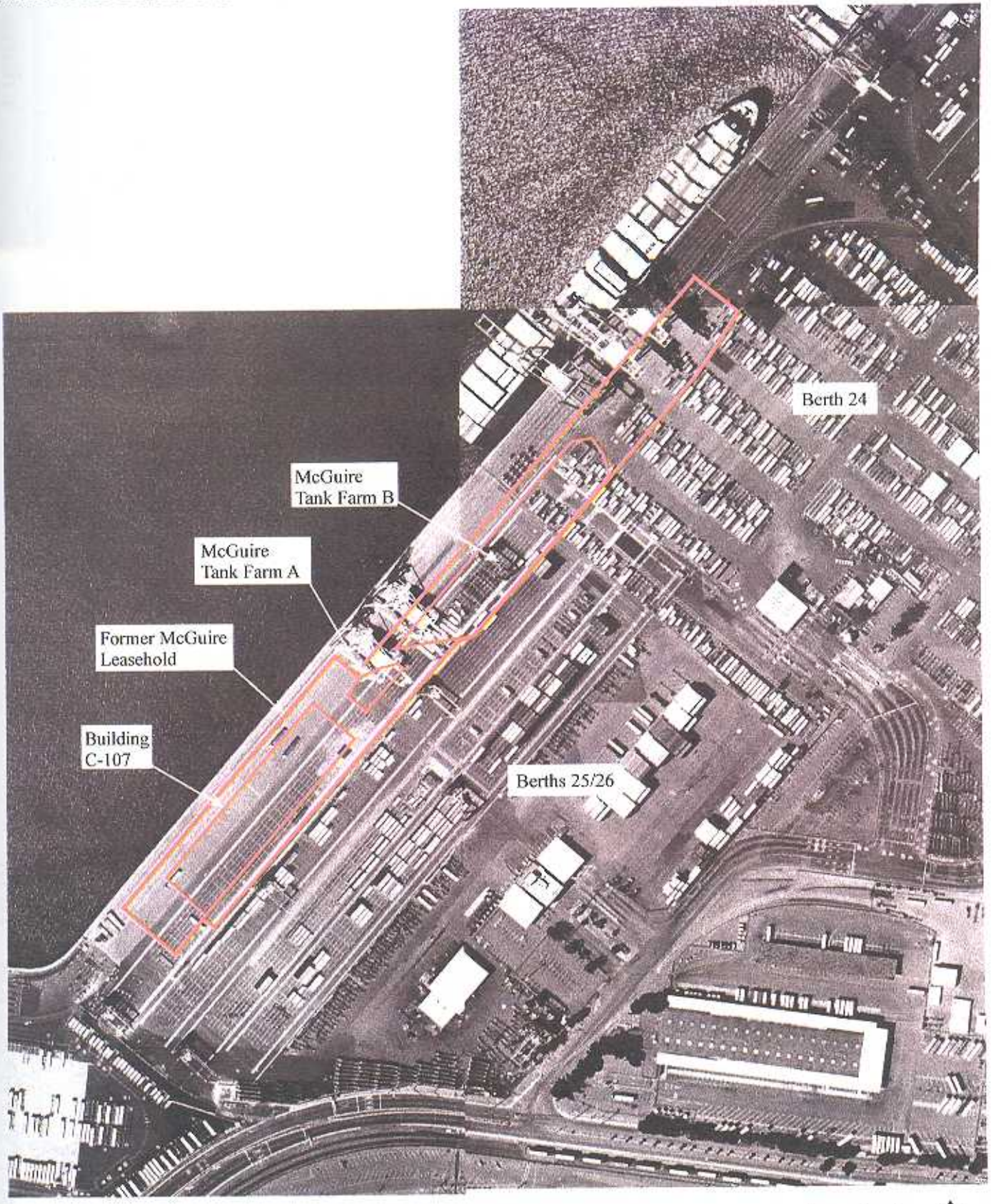
DATE OF ISSUANCE: 09/14/01

Original Signed By
Barbara J. Cook, P.E.
Regional Branch Chief
Site Mitigation Branch
Department of Toxic Substances Control

cc: Site Mitigation Program
Headquarters, Planning & Policy
Office of Legal Counsel

AERIAL PHOTO - 1997

Figure 2



Approximate
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Former McGuire Chemcial Company
Oakland, California

BASELINE

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