

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

STAFF SUMMARY REPORT (Terry Seward)
MEETING DATE: September 12, 2007

ITEM: 11

SUBJECT: **Port of Richmond, Vopak North America, Inc., and United Molasses Company for Port of Richmond Terminal 4**, Richmond, Contra Costa County – Site Cleanup Requirements

CHRONOLOGY: No Orders have been previously adopted for this site

DISCUSSION: The Revised Tentative Order for Site Cleanup Requirements (Appendix A) requires investigation and cleanup of petroleum contaminated soil and groundwater at two historic tank bulk storage facilities located adjacent to one another in an area now owned by the Port of Richmond and referred to as Terminal 4. Terminal 4 is located northwest of the Richmond/San Rafael Bridge, along the Richmond shoreline, at Point San Pablo.

Terminal 4 poses a threat to San Francisco Bay's beneficial uses. Groundwater in this area discharges directly to the Bay and, in 2001, petroleum hydrocarbon seeps were observed along a beach adjacent to Terminal 4. While petroleum hydrocarbon-contaminated soils and groundwater are present in large areas that were historically used for fuel storage, the most severely polluted area is adjacent to the Bay. In this topographically lower section of the Terminal 4 site, free-phase petroleum product is present in groundwater.

The Revised Tentative Order is consistent with State Water Board policy in that it names all former facility operators (United Molasses Company and Vopak North America Inc.) and the current property owner (Port of Richmond) as dischargers.

Site History: The United Molasses Company's facility was located at Terminal 4 in a six-acre area along the San Pablo Bay shoreline. Vopak North America Inc.'s (Vopak's) facility was located on about 9.5 acres immediately to the north and uphill (and upgradient) of United Molasses.

Vopak and its predecessors operated at this location from 1917 to 2000 and dismantled their tanks and structures in 2001. Vopak utilized about 100 aboveground storage tanks, and underground tanks, that contained a range of products, including heating/diesel fuels and linear alkyl benzenes. These alkyl benzenes, which are unique to Vopak's

operations, are present in groundwater downgradient of their operations, along with weathered petroleum product in the diesel to fuel oil range.

United Molasses and its predecessors operated at this location from 1936 to 1993. Their facility is downhill and downgradient from Vopak's. They had at least two underground/partially-buried diesel tanks. One tank showed significant evidence of leakage upon its removal.

The Port of Richmond purchased the properties occupied by the latter dischargers in 1974, then leased the property back to Vopak and United Molasses. The Port did not operate storage facilities in the areas of concern.

Comments and Responses: All three dischargers submitted comments on the Tentative Order (Appendix B). The following is a summary of comments and staff responses:

Port of Richmond

The Port requested that it be named secondarily on the Order because it did little more than lease the property to the existing tenants after purchase in 1974.

While we recognize that the Port did not operate either of the facilities responsible for the discharges, it is State Water Board policy to name the current property owner as a discharger. We did revise the Tentative Order to state that the Port will be held liable only if the dischargers who operated the two facilities in question fail to comply with the Order.

The Port has indicated it intends to comply with the Order.

Vopak

Vopak raised a number of issues which include: naming East Bay Municipal Utility District as a discharger, claiming it is not responsible for free-phase petroleum product at the downgradient area of Terminal 4, and requesting a separate order.

In 2001 an East Bay Municipal Utility District (District) water line broke. This excess water may have forced some of the petroleum product already present further downgradient. During this time oil seeps were observed near the Bay at Terminal 4. We do not believe it is appropriate to name the District as a discharger.

Vopak maintains it has no responsibility for petroleum impacts downgradient of its site; however it does accept responsibility for

impacts from alkyl benzenes and petroleum contamination detected in the northeastern part of its leasehold. Vopak states that records and chromatographs of samples taken indicate it should not be responsible for downgradient oily product impacts, and therefore, it would like the Board to issue separate orders. We assert that it needs to take responsibility for its site and any associated downgradient impacts caused by its or its predecessors' facility. Due to the shallow bedrock and associated geology at this site, detection of onsite releases would be difficult unless the release was investigated shortly after it occurred. In addition, there is a lack of information on the amount and type of products stored onsite during most of Vopak's long operating history. Vopak's limited records indicate that it stored and handled petroleum and alkyl benzene products upgradient of United Molasses.

United Molasses Company

United Molasses states that the source of pollution below its site is from the upgradient Vopak facility. We assert that while Vopak operated a larger facility, which handled far greater amounts of petroleum products, a contribution by United Molasses cannot be discounted. There is clear evidence of releases from an underground storage tank associated with its operations.

United Molasses has indicated that it intends to comply with the Order.

In summary, the Revised Tentative Order requires a complete evaluation of soil and groundwater impacts and cleanup, as necessary and appropriate, to protect beneficial uses of the Bay. The Revised Tentative Order names all responsible parties and does not apportion responsibility to each discharger. The issuance of separate orders is not practicable or appropriate where responsibilities are not and cannot be clearly defined. This approach is consistent with State and Regional Water Board practices and policies.

**RECOMMEN-
DATION:**

Adoption of the Tentative Order

**FILE NO.
APPENDICES:**

2119.1231(TS)
A - Revised Tentative Order
B - Comments Received

APPENDIX – A
Revised Tentative Order

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

REVISED TENTATIVE ORDER

SITE CLEANUP REQUIREMENTS

**PORT OF RICHMOND
VOPAK NORTH AMERICA, INC.
UNITED MOLASSES COMPANY**

**PORT OF RICHMOND TERMINAL 4
RICHMOND, CONTRA COSTA COUNTY**

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board), finds that:

1. **Site Location and Description:** Port of Richmond Terminal 4 (hereinafter referred to as the Site) is located in Contra Costa County on Point San Pablo, near the northwest tip of Richmond (see Figure 1). The Site is located on a peninsula, jutting into the San Francisco Bay. The City of Richmond lies to the east. The Site is owned by the Port of Richmond, and consists of two historic leaseholds adjacent to one another: the Vopak North America Inc. (Vopak) leasehold and the United Molasses Company leasehold. The Vopak leasehold consisted of approximately 9.5 acres of land used for a bulk oil storage facility and included a large quantity of aboveground tanks, related structures, and underground storage tanks. The United Molasses Company leasehold consisted of approximately six acres of land hydraulically downgradient and southwest of the Vopak leasehold used for bulk storage, handling, and distribution of agricultural products in aboveground, underground storage tanks, and related structures (see Figure 2).
2. **Site History:** Vopak: Vopak and its predecessors, which include Dorward & Sons and Paktak California, began operating a bulk oil storage facility on its leasehold at the Site in 1917. Vopak and its predecessors stored products including, but not limited to, lubricating oils, gasoline, diesel fuel, neutral oil 100 and 500, Grade 4 oil, distillate oil, No. 5 fuel oil, No. 6 fuel oil, jet fuel, polybutane, toluene, xylene, linear alkylbenzenes, alcohols, animal and vegetable oils, liquid fertilizers, and phosphoric acids. The products were contained in approximately 100 aboveground storage tanks with a capacity ranging from 1000 to 3.9 million gallons, with a total capacity of 21,000,000 gallons. Vopak ceased operations in 2000, and demolished and removed the tanks by February 2001. An undetermined number of

underground storage tanks were also located at the Site. Two former pipelines transported alkenes, propylene tetramer, and polymers from the neighboring Chevron Refinery to the Vopak facility. The pipelines were constructed, owned and operated by Chevron.

United Molasses Company: United Molasses Company and its predecessors, PM Ag and Pacific Molasses Company, began operating on their Site leasehold in 1936. PM Ag and Pacific Molasses Company were engaged in aboveground bulk storage, handling, and distribution of commercial agricultural products. Products included coconut oil, lignin liquor, linseed oil, cane molasses, blackstrap molasses, beet molasses, and tallow. Two boilers were used to heat and improve the transfer of products. The boilers were fired by diesel or light heating oil stored in two underground storage tanks (one was partially buried), one of unknown size and one with a capacity of approximately 8,000 gallons. United Molasses Company removed the two underground storage tanks and eight aboveground storage tanks formerly containing agricultural products in the 1980's and 1990's, and ceased facility operations in 1993.

3. **Regulatory Status:** This Site is currently not subject to a Board order. Site investigation has been required previously under Section 13267 of the Water Code.
4. **Purpose of Order:** This order establishes Site Cleanup Requirements (SCRs) for the Site, and includes provisions, specifications, tasks, and a schedule necessary to conduct additional Site investigations and to minimize the impacts of waste discharge into waters of the State. California Water Code Section 13304 authorizes the Board to issue orders requiring Dischargers to cleanup and abate waste where the dischargers have caused or permitted waste to be discharged or deposited where it is or probably will be discharged into waters of the State and creates or threatens to create a condition of pollution or nuisance.
5. **Named Dischargers:** Vopak, United Molasses Company, and the Port of Richmond (collectively, Dischargers) are named as dischargers to this SCR. Although the Dischargers dispute the relative contribution and extent of contaminants from their respective sites and leaseholds to the overall Site contamination, consistent with State Water Resource Control Board policy, it is the policy of the Board not to allocate or apportion responsibility between the dischargers named to SCRs.

Vopak: Vopak is named as a discharger because it and its predecessors have caused or permitted waste to be discharged into the waters of the State and create, or threatens to create, a condition of pollution or nuisance. Specifically: (a) Vopak and its predecessors operated a leasehold from 1917 to 2000 during which time a large quantity of various chemicals and products were stored at Vopak's leasehold area; (b) Vopak is the successor in interest to those companies which operated a bulk oil storage facility at the Site; (c) chemicals consistent with Vopak's and its predecessors' operations (gasoline, diesel fuel, miscellaneous oils including

fuel oil, and linear alkylbenzenes) have been detected in soil and groundwater at the Site; (d) spill and leak reports have been filed for releases associated with the Vopak leasehold area of the Site, including: a 1985 United States Coast Guard notification of a discharge of oily storm water into the Bay from the Vopak 500-Series tank farm, a 1986 report documenting a leaking underground petroleum storage tank at the northern portion of the Vopak leasehold, and a 1995 National Response Center report of an “unknown oil” discharging from the hillside at the northern portion of the Vopak leasehold; (e) a 1968 site map indicates that an approximately 16,000 gallon fuel oil tank was located within the 500 series tank farm; (f) while tank storage records are very limited, a 1975 record indicates that millions of gallons of diesel and about 100,000 gallons of gasoline were stored at the Vopak leasehold; and, (f) technical reports document the presence of elevated concentrations of linear alkylbenzenes and/or petroleum hydrocarbons as gasoline, diesel, and oil in and downgradient of the area of Vopak’s former storage tanks. See also Finding No. 7 below.

United Molasses Company: United Molasses Company is named as a discharger because it and its predecessors caused or permitted waste to be discharged into waters of the State and creates, or threatens to create, a condition of pollution or nuisance. Specifically: (a) United Molasses Company and its predecessors stored and used petroleum hydrocarbons on its leasehold area of the Site from 1936 to 1993; (b) United Molasses Company is the successor in interest to those companies which stored and used petroleum hydrocarbons at the Site; (c) consistent with United Molasses Company’s operations, petroleum hydrocarbons, primarily as diesel and oil, have been detected in soil and groundwater at the Site; and d) two underground storage tanks on the former United Molasses leasehold have been identified as sources of releases as indicated by the presence of elevated levels of petroleum hydrocarbons, primarily as diesel and oil, in shallow soils and groundwater in the vicinity of the tanks in underground storage tank removal reports and site investigation reports. See also Finding No. 7 below.

Port of Richmond: The Port of Richmond is named as a discharger because it is the current landowner of the Site. Additionally, the Port of Richmond has been the owner of the Site since the early 1970’s, a period during which Vopak and United Molasses Company and their predecessors leased the Site and caused the discharge of contaminants. The Port of Richmond acquired the Site from Vopak’s predecessors. While the Port of Richmond as a landowner is properly named as a discharger, it will be required to implement the requirements of this SCR only if the Board through its Executive Officer finds that Vopak and United Molasses are not complying with the requirements of this SCR.

6. **Site Hydrogeology**: The Site is located on the hilly peninsula of the Potrero-San Pablo Ridge, which is composed of the steeply dipping Franciscan complex. The bedrock is composed of sandstone, shale, and conglomerate. Past sea level fluctuations resulted in a complex sedimentary sequence of interfingering estuarine and alluvial fan deposits overlying

the Franciscan Complex bedrock. The uppermost deposits, which consist of imported fill ranging from 3 to 30 feet deep overlies Bay Muds that consist of silt and silty clay with abundant plant matter. The Bay Muds overlie the Franciscan bedrock. The ground surface at the eastern/uphill portion of the Site consists of the Franciscan bedrock. The ground surface at the western/downhill portions of the Site consists of artificial fill. The Site is bounded by the Hayward Fault to the east and the San Pedro-San Pablo Fault to the west. Groundwater beneath the Site lies approximately 8-15 feet below the ground surface and generally flows to the west/southwest, and discharges into San Francisco Bay. The variable nature of the surface topography, subsurface materials, underground utilities, and surface drainage structures poses challenges to predicting with certainty the movement of surface water and groundwater at the Site and the migration of contaminants in water.

7. **Remedial Investigations:** Remedial investigations were conducted at the Site by Vopak, United Molasses Company, and the Port of Richmond in 2001-2003. Additional site investigations are required by this Order. Site groundwater and soil has been impacted by gasoline, diesel, and oil range petroleum hydrocarbons, as well as linear alkylbenzenes, a surfactant used for the production of detergents. The 2001 to 2003 Site investigations included soil and groundwater sampling and trenching throughout the site and adjacent beach areas. The investigations indicate that petroleum hydrocarbon contamination is present in large areas of the Site, including the former United Molasses and Vopak leasehold areas. The most severe contamination is free-phase petroleum hydrocarbons found downgradient of the Vopak 500-series tank farm, within the former United Molasses leasehold, extending from the area of Western Drive to the beach area where petroleum seepage was last observed in 2001 (see Figure 2). During the investigations conducted in 2002 it was determined that a significant leakage of water was occurring from an East Bay Municipal Utility District (EBMUD) water line beneath the Vopak 500-series tank farm, which was subsequently repaired.

A summary of the most significant site impacts documented in the 2001 to 2003 investigation reports are as follows:

United Molasses Company Leasehold Soil and Groundwater Impacts:

Separate-phase petroleum product is found throughout the United Molasses Company leasehold. The highest dissolved petroleum concentrations are found near the two former fuel tanks on the United Molasses leasehold. Maximum concentrations of petroleum hydrocarbons detected in soil are 94 ppm TPH diesel and 180 ppm TPH oil in boring VB-12. Maximum concentrations of petroleum hydrocarbons detected in groundwater are 2300 ppb TPH diesel and 580 ppm TPH oil in VB-12. Linear alkylbenzenes, which originated from Vopak's 500 series tank farm, have been identified, and are commingled with other product but not quantified within the United Molasses leasehold.

Vopak Leasehold Soil and Groundwater Impacts:

Vopak 500-Series Tank Area: The separate-phase petroleum product found underlying the majority of the former United Molasses leasehold is not observed immediately underlying the Vopak 500-Series tank area. However, the product is found immediately downgradient of the tanks in the area, and upgradient of United Molasses source areas in borings B-18, B-25, VB-1, VB-5, VB-13A, VB-14, and wells MW-2 and MW-4, located along Western Drive.

High levels of petroleum hydrocarbon contamination have been detected in soil and groundwater in Vopak's 500-Series tank area. In soil, petroleum hydrocarbon concentration has been detected at maximum concentrations of 3100 ppm TPH diesel in well VMW-3, 28 ppm TPH gas in boring VMW-2, and 5300 ppm TPH oil in well VMW-1. Dissolved groundwater contamination is found in monitoring wells within the 500-Series tank area at maximum concentrations of up to 4100 ppb TPH gas in well VMW-2, and 270 ppb TPH diesel in well VMW-3. Linear alkylbenzenes, which originate from Vopak's 500 series tank farm and potentially other areas of the Vopak leasehold, have been identified and are commingled with other product, but not quantified. The linear alkylbenzenes have migrated in groundwater and have impacted the downgradient United Molasses site.

Northern Vopak Leasehold Area: An area of soil and groundwater contamination has been identified in the northern area of the Site on the former Vopak leasehold, north of the former Vopak warehouse. The petroleum hydrocarbon contamination in soil and groundwater in the northern area of the Site is distinct from the soil and groundwater contamination identified in the southern area. In soil in the former northern Vopak leasehold area, petroleum hydrocarbons have been detected at maximum concentrations of 27 ppm TPH gas, 7100 ppm TPH diesel, and 7200 ppm TPH oil in soil boring VB-21. Separate-phase petroleum hydrocarbons has been detected in borings B-38 and VB-20. Dissolved groundwater contamination is reported at maximum concentrations of 250 ppb TPH gas and 5,900 ppb TPH diesel in boring VB-20. No linear alkylbenzenes were found commingled within area of elevated petroleum hydrocarbon concentrations in soil or groundwater in the northern area of the Site.

8. **Interim Remedial Measures:** Interim remedial measures at the Site include removal of the sources and potential sources of contamination, including the underground and aboveground storage tanks and associated piping, at the former Vopak and United Molasses leaseholds. The beach seep, which occurred in 2001 when the storage tank facilities at the Vopak site were removed, ceased after an EBMUD water line leak running through the Vopak leasehold was repaired.
9. **Basin Plan:** The Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) is the Board's master water quality control planning document. It designates beneficial uses and

water quality objectives for waters of the State, including surface waters and groundwater. It also includes programs of implementation to achieve water quality objectives. The Basin Plan was duly adopted by the Board and approved by the State Water Resources Control Board, U.S. EPA, and the Office of Administrative Law where required.

The potential beneficial use of groundwater beneath the Site includes:

- a. Municipal and domestic water supply
- b. Industrial process water supply
- c. Industrial service water supply
- d. Agricultural water supply
- e. Freshwater replenishment to surface waters

At present, there is no known existing use of groundwater underlying the Site for the above purposes.

The existing beneficial uses of waters of San Francisco Bay includes:

- a. Municipal and domestic supply
- b. Industrial process supply or service supply
- c. Water contact and non-contact recreation
- d. Wildlife habitat
- e. Cold freshwater and warm freshwater habitat
- f. Fish migration and spawning
- g. Navigation
- h. Estuarine habitat
- i. Shellfish harvesting
- j. Preservation of rare and endangered species

10. **State Water Board Resolution No. 92-49:** State Water Board Resolution No. 92-49, "Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304," applies to this cleanup and requires cleanup and abatement of the effects of a discharge in a manner that promotes attainment of either background water quality, or the best water quality which is reasonable if background levels of water quality cannot be restored. Cleanup to levels other than background must be consistent with the maximum benefit to the people of the State, not unreasonably affect present and anticipated beneficial uses of such water, and not result in water quality less than prescribe in the Basin Plan and policies adopted by the State and Regional Water Boards. This Order does not yet prescribe clean-up levels, but requires the Dischargers to investigate whether cleanup to background levels is feasible, as described in Provision B.5.
11. **Preliminary Cleanup Goals:** The Dischargers will need to make assumptions about future cleanup standards for soil and groundwater, in order to determine the necessary extent of remedial investigation, interim remedial actions, and the draft remedial action plan. Pending

the establishment of Site-specific cleanup standards, the following preliminary cleanup goals shall be used for these purposes:

- a. **Groundwater:** Applicable water quality objectives (e.g., lower of primary (toxicity) and secondary (taste and odor) maximum contaminant levels, or MCLs) or, in the absence of a chemical-specific objective, equivalent drinking water levels based on toxicity and taste and odor concerns.
 - b. **Soil:** Applicable screening levels as compiled in the Board's draft Environmental Screening Levels (ESLs) document or its equivalent. Soil screening levels are intended to address a full range of exposure pathways, including direct exposure, indoor air impacts, nuisance, and leaching to groundwater.
12. **Cost Recovery:** Pursuant to California Water Code Section 13304, the Dischargers are hereby notified that the Board is entitled to, and may seek reimbursement for, all reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order.
 13. **CEQA:** This action is an order to enforce the laws and regulations administered by the Board. As such, this action is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to Section 15321 of the Resources Agency Guidelines.
 14. **Public Notice:** The Board has notified the Dischargers and interested agencies and persons of its intent to under California Water Code Section 13304 to prescribe site cleanup requirements for the discharge, and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
 15. **Public Hearing:** The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to Section 13304 of the California Water Code, that the Dischargers, in accordance with Finding No. 5, shall cleanup and abate the effects described in the above findings as follows:

A. PROHIBITIONS

1. The discharge of wastes or hazardous substances in a manner which will degrade water quality or adversely affect beneficial uses of waters of the State is prohibited.

2. Further significant migration of wastes or hazardous substances through subsurface transport to waters of the State is prohibited.
3. Activities associated with the subsurface investigation and cleanup which will cause significant adverse migration of wastes or hazardous substances are prohibited.

B. TASKS

1. WORKPLAN TO EVALUATE CURRENT SITE CONDITIONS

COMPLIANCE DATE: January 4, 2008

Submit a workplan, acceptable to the Executive Officer, to evaluate current surface water and groundwater conditions at the Site, including, at a minimum: the extent of free and dissolved petroleum hydrocarbon product, the pathways and migration rates of contaminants in surface water, groundwater, soil, and bedrock, and, the current conditions of beach areas where historic releases have been observed. The workplan shall provide for resampling of all existing groundwater monitoring wells. The workplan shall specify investigation methods and a proposed time schedule for implementation of the workplan.

2. CURRENT SITE CONDITIONS REPORT

COMPLIANCE DATE: May 1, 2008

Submit a technical report, acceptable to the Executive Officer, documenting completion of necessary tasks identified in the Task 1 workplan. The report shall describe the current Site conditions based on an evaluation of available site data. The report shall also propose additional investigation and a time schedule for implementation, if necessary, to provide additional data necessary to define the extent of surface water and groundwater impacts at the Site.

3. WORKPLAN FOR INTERIM REMEDIAL ACTIONS

COMPLIANCE DATE: July 1, 2008

Submit a workplan, acceptable to the Executive Officer, which proposes interim remedial actions for the Site. The interim remedial actions shall include the removal of free petroleum product from groundwater, elimination and prevention of the discharge of free or dissolved product into the bay, and remediation of any remaining

impacts to beach areas and bay waters. The workplan shall specify the methods of remediation and include a proposed time schedule.

4. **REPORT DOCUMENTING IMPLEMENTATION OF INTERIM REMEDIAL ACTIONS**

COMPLIANCE DATE: December 1, 2008

Submit a technical report, acceptable to the Executive Officer, documenting implementation of interim remedial actions proposed in the Task 3 workplan. The report shall describe any variation with the interim remedial actions proposed in Task 3.

5. **WORKPLAN FOR FINAL REMEDIAL MEASURES**

COMPLIANCE DATE: July 1, 2009

Submit a technical report, acceptable to the Executive Officer, evaluating the performance of interim remedial measures on both free and dissolved groundwater and surface water contamination at the Site. The report shall propose final cleanup plan which includes, at a minimum, the following:

- a. Results of any additional investigation
- b. Evaluation of the installed interim remedial actions
- c. Risk assessment for current and post-cleanup exposures
- d. Proposed numeric Site-specific final cleanup standards for soil and groundwater
- e. Feasibility study evaluating and proposing final remedial actions
- f. Implementation tasks and time schedule

Item e shall include projections of cost, effectiveness, benefits, and impact on public health, welfare, and the environment of each alternative action.

Item e shall consider the preliminary cleanup goals for soil and groundwater identified in Finding 11 and shall address the attainability of background levels of water quality (see finding 10).

6. **SITE MONITORING PLAN**

COMPLIANCE DATE: December 1, 2007

Submit a workplan, acceptable to the Executive Officer, proposing a Site monitoring plan which will provide hydrological and water quality data necessary to evaluate Site

conditions and the performance of interim and final remedial actions. The workplan shall specify wells to be monitored, monitoring frequency, and analytical methods.

7. **Delayed Compliance:** If the Dischargers are delayed, interrupted, or prevented from meeting one or more of the completion dates specified for the above tasks, the dischargers shall promptly notify the Executive Officer and the Board may consider revision to this Order.

C. PROVISIONS

1. **No Nuisance:** The storage, handling, treatment, or disposal of polluted soil or groundwater shall not create a nuisance as defined in California Water Code Section 13050(m).
2. **Good Operation and Maintenance (O&M):** The Dischargers shall maintain in good working order and operate as efficiently as possible any facility or control system installed to achieve compliance with the requirements of this Order.
3. **Cost Recovery:** The Dischargers shall be liable, pursuant to California Water Code Section 13304, to the Board for all reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order. If the site addressed by this Order is enrolled in a State Water Board-managed reimbursement program, reimbursement shall be made pursuant to this Order and according to the procedures established in that program. Any disputes raised by the Dischargers over reimbursement amounts or methods used in that program shall be consistent with the dispute resolution procedures for that program.
4. **Access to Site and Records:** In accordance with California Water Code Section 13267(c), the Dischargers shall permit the Board or its authorized representative:
 - a. Entry upon premises in which any pollution source exists, or may potentially exist, or in which any required records are kept, which are relevant to this Order.
 - b. Access to copy any records required to be kept under the requirements of this Order.
 - c. Inspection of any monitoring or remediation facilities installed in response to this Order.

- d. Sampling of any groundwater or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the Dischargers.
5. **Self-Monitoring Program:** The Dischargers shall comply with the Self-Monitoring Program as attached to this Order and as may be amended by the Executive Officer.
6. **Contractor / Consultant Qualifications:** All technical documents shall be signed by and stamped with the seal of a California registered professional geologist, a California certified engineering geologist, or a California registered civil engineer.
7. **Lab Qualifications:** All samples shall be analyzed by State-certified laboratories or laboratories accepted by the Board using approved EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/ quality control (QA/QC) records for Board review. This provision does not apply to analyses that can only reasonably be performed on-site (e.g., temperature).
8. **Document Distribution:** Copies of all correspondence, technical reports, and other documents pertaining to compliance with this Order shall be provided to the following agencies:
 - a. City of Richmond, Richmond Community Redevelopment Agency
 - b. Contra Costa County, Department of Environmental Health

The Executive Officer may modify this distribution list as needed.

9. **Reporting of Changed Owner or Operator:** The Dischargers shall file a technical report on any changes in Site occupancy or ownership associated with the property described in this Order.
10. **Reporting of Hazardous Substance Release:** If any hazardous substance is discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, the Dischargers shall report such discharge to the Board by calling (510) 622-2369 during regular office hours (Monday through Friday, 8:00 to 5:00).

A written report shall be filed with the Board within five working days. The report shall describe: the nature of the hazardous substance, estimated quantity involved, duration of incident, cause of release, estimated size of affected area, nature of effect, corrective actions taken or planned, schedule of corrective actions planned, and persons/agencies notified.

This reporting is in addition to reporting to the Office of Emergency Services required pursuant to the Health and Safety Code.

11. **Periodic SCR Review:** The Board will review this Order periodically and may revise it when necessary. The Dischargers may request revisions and upon review the Executive Officer may recommend that the Board revise these requirements.

I, Bruce H. Wolfe, Executive Officer, do hereby certify that the foregoing is a full, complete, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on _____.

Bruce H. Wolfe
Executive Officer

Figures: Figure 1 – Site Location Map: Page 13
 Figure 2 – Site Map: Page 14

Attachment: Self-Monitoring Program: Page 15

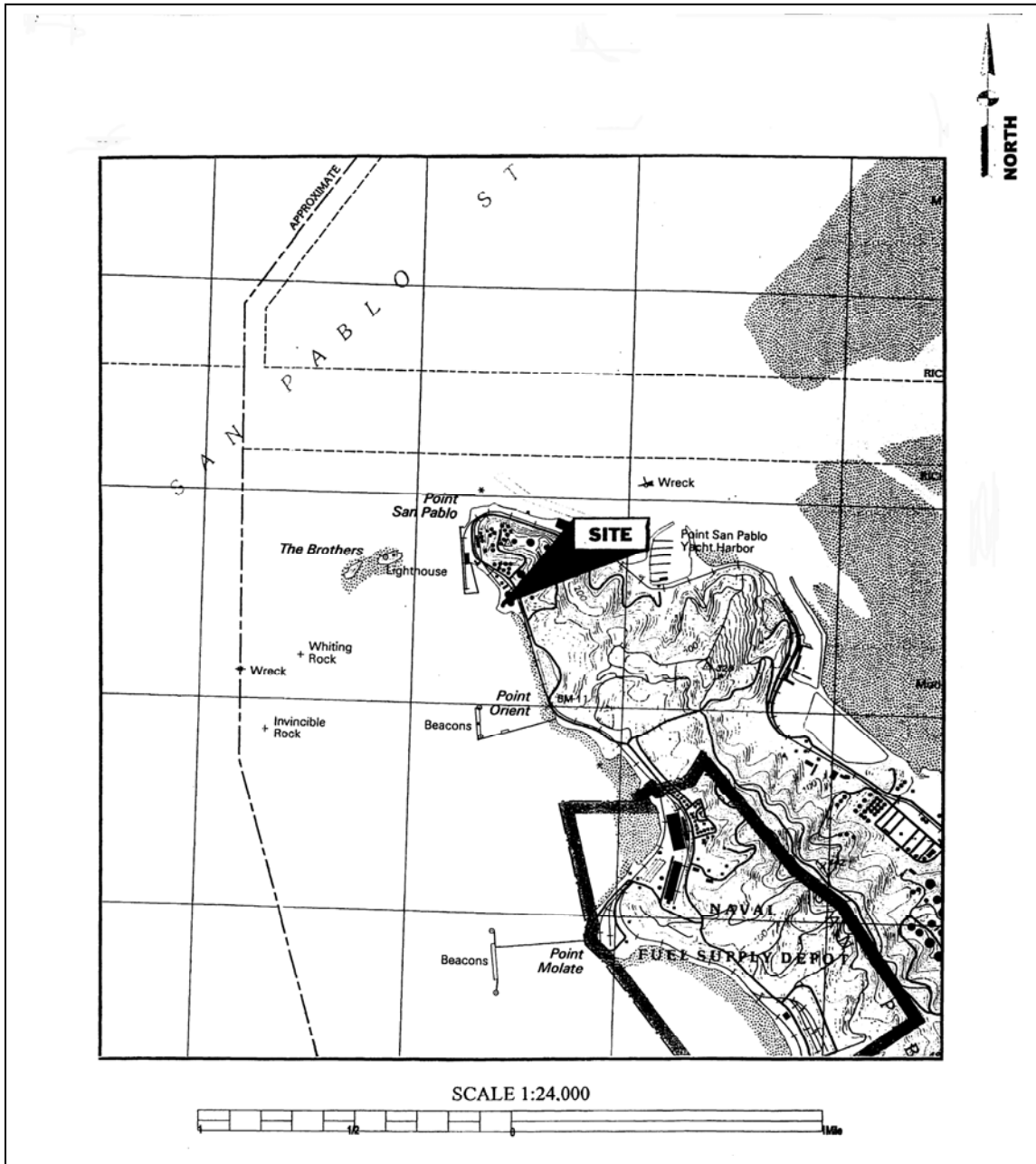
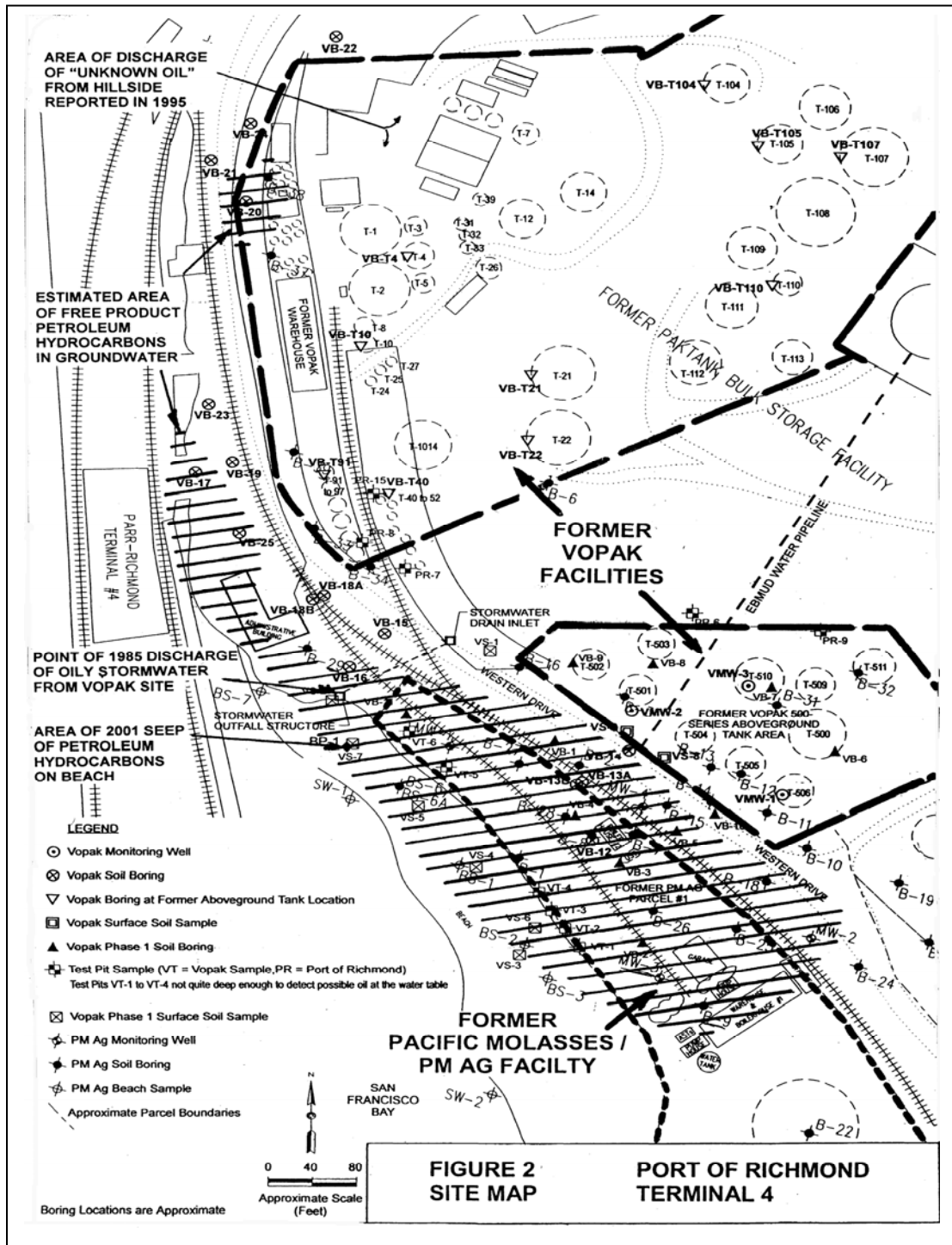


Figure 1
Site Location Map



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM FOR:

**PORT OF RICHMOND
VOPAK NORTH AMERICA, INC.
UNITED MOLASSES COMPANY**

**PORT OF RICHMOND TERMINAL 4
RICHMOND, CONTRA COSTA COUNTY**

for the property located at

**PORT OF RICHMOND TERMINAL 4
RICHMOND, CONTRA COSTA COUNTY**

1. **Authority and Purpose:** The Board requests the technical reports required in this Self-Monitoring Program pursuant to Water Code Sections 13267 and 13304. This Self-Monitoring Program is intended to document compliance with Board Order No. XX-XXX (site cleanup requirements).
2. **Monitoring:** The Dischargers shall measure groundwater elevations and shall collect and analyze representative samples of groundwater quarterly in all existing monitoring wells. Analytes shall be analyzed utilizing the following EPA laboratory analytical methods:

Analyte	EPA Method
TPH gas	5030 or equivalent
TPH diesel	3510 or equivalent
BTEX	8260 or equivalent
MTBE and other fuel oxygenates	8260 or equivalent

The Dischargers shall sample any new monitoring or extraction wells quarterly and analyze groundwater samples for the same constituents as above table. The Dischargers may propose changes in the above table; any proposed changes are subject to Executive Officer approval.

3. **Quarterly Monitoring Reports:** The Dischargers shall submit quarterly monitoring reports to the Board no later than 30 days following the end of the quarter (e.g., report for first quarter of the year due April 30). The first quarterly monitoring report shall be due on January 30, 2008. The reports shall include:
 - a. **Transmittal Letter:** The transmittal letter shall discuss any violations during the reporting period and actions taken or planned to correct the problem. The letter shall be signed by the Dischargers' principal executive officer or his/her duly authorized representative, and shall include a statement by the official, under penalty of perjury, that the report is true and correct to the best of the official's knowledge.
 - b. **Groundwater Elevations:** Groundwater elevation data shall be presented in tabular form, and a groundwater elevation map shall be prepared for each monitored water-bearing zone. Historical groundwater elevations shall be included in the fourth quarterly report each year.
 - c. **Groundwater Analyses:** Groundwater sampling data shall be presented in tabular form, and an isoconcentration map shall be prepared for one or more key contaminants for each monitored water-bearing zone, as appropriate. The report shall indicate the analytical method used, detection limits obtained for each reported constituent, and a summary of QA/QC data. Historical groundwater sampling results shall be included in the fourth quarterly report each year. The report shall describe any significant increases in contaminant concentrations since the last report, and any measures proposed to address the increases. Supporting data, such as lab data sheets, need not be included (however, see record keeping - below).
 - d. **Groundwater Extraction:** If applicable, the report shall include groundwater extraction results in tabular form, for each extraction well and for the Site as a whole, expressed in gallons per minute and total groundwater volume for the quarter. The report shall also include contaminant removal results, from groundwater extraction wells and from other remediation systems (e.g., soil vapor extraction), expressed in units of chemical mass per day and mass for the quarter. Historical mass removal results shall be included in the fourth quarterly report each year.
 - e. **Status Report:** The quarterly report shall describe relevant work completed during the reporting period (e.g., site investigation, interim remedial measures) and work planned for the following quarter.

4. **Violation Reports:** If the Dischargers violate requirements in the Site Cleanup Requirements, then the Dischargers shall notify the Board office by telephone as soon as practicable once the Dischargers have knowledge of the violation. Board staff may, depending on violation severity, require the Dischargers to submit a separate technical report on the violation within five working days of telephone notification.
5. **Electronic Reporting:** In addition to print submittals, all reports submitted pursuant to this Order must be submitted as electronic files in **PDF format**. The Board has implemented a document imaging system, which is ultimately intended to reduce the need for printed report storage space and streamline the public file review process. Documents in the imaging system may be viewed, and print copies made, by the public, during file reviews conducted at the Board's office. PDF files can be created by converting the original electronic file format (e.g., Microsoft Word) and/or by scanning printed text, figures & tables. Data tables containing water level measurements, sample analytical results, coordinates, elevations, and other monitoring information shall also be provided electronically in **Microsoft Excel® or similar spreadsheet format** to provide an easy to review summary, and to facilitate data computations and/or plotting that Board staff may undertake during their review. Data tables submitted in electronic spreadsheet format will not be included in the case file for public review. All electronic files must be submitted on CD or diskette and included with the print report.
6. **Other Reports:** The Dischargers shall notify the Board in writing prior to any Site activities, such as construction or underground tank removal, which have the potential to cause further migration of contaminants or which would provide new opportunities for Site investigation.
7. **Record Keeping:** The Dischargers or their agents shall retain data generated for the above reports, including lab results and QA/QC data, for a minimum of six years after origination and shall make them available to the Board upon request.
8. **SMP Revisions:** Revisions to the Self-Monitoring Program may be ordered by the Executive Officer, either on his/her own initiative or at the request of the Dischargers. Prior to making SMP revisions, the Executive Officer will consider the burden, including costs, of associated self-monitoring reports relative to the benefits to be obtained from these reports.

Appendix – B
Comments Received

ROGERS JOSEPH O'DONNELL

AUG 06 2007

August 6, 2007

VIA HAND DELIVERY

Mr. Cecilio S. Felix
Associate Engineering Geologist
California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612

Re: Comments by the Port of Richmond on Tentative Order for Site Cleanup Requirements Port of Richmond Terminal 4 Site, Richmond, California

Dear Mr. Felix:

As you know, I am outside counsel for the City of Richmond in connection with the above matter. I am submitting these comments on the above referenced Tentative Order on behalf of the Port of Richmond ("the Port"). These comments concern the July 20, 2007 Tentative Order, and they supplement, and are in addition to, the comments that Louise Renne, the Interim City Attorney, submitted by letter dated June 20, 2007. A copy of Ms. Renne's prior comments are attached to this letter as Attachment 1.

The Port is extremely disappointed by the Water Board's decision not to name the Port as a secondary discharger in connection with this site. As we have discussed, we believe that applicable legal authority and the operative facts support doing so, and we accordingly request that the Water Board revise the Tentative Order to designate the Port as a secondary discharger.

Applicable State Water Board authority expressly provides for naming a party such as the Port as a secondary discharger, or secondarily responsible party. In *the Matter of the Petitions of Aluminum Company of America, et al.*, Order No. WQ 93-9, the State Water Board stated that "[t]he Board has concluded that the initial responsibility for clean up should be with the operator or party who created the discharge," and identified a long list of State Water Board decisions so holding. (*Id.* at p. 12 n. 8). The State Water Board noted that designating a party as being secondarily responsible is "a distinction made primarily for equitable reasons." (*Id.*). And a review of the State Water Board decisions in which a party was designated secondarily liable strongly supports such a designation here, for the Port of Richmond. The decisions uniformly involve property owners, like the Port, who neither caused nor contributed to the discharge and where, as here, there are solvent dischargers who have undertaken work at the site. *See e.g. In*

Mr. Cecilio S. Felix
August 6, 2007
Page 2

the Matter of the Petitions of Aluminum Company of America, et al., Order No. WQ 93-9; *In the Matter of the Petitions of Wenwest, Inc., et al.*, Order No. WQ 92-13.¹

Until its circulation of the most recent versions of the above-referenced Tentative Order, the Water Board has routinely applied the secondary discharger concept to parties like the Port. Indeed, in the original Tentative Order (issued in 2002), the Water Board did just that. And it has failed to articulate any reason why it should now treat the Port differently.

In the five years since the original draft order was circulated for this site, the Water Board has routinely named governmental entities as being “secondarily responsible” parties or “secondary dischargers.” As pointed out in my letter to you dated January 20, 2007, the Water Board, in Order No. R2-2005-0028, involving the Pier 64 Site in San Francisco, found the City and County of San Francisco (“CCSF”) (as well as a private property owner) to be “Secondary Dischargers” on facts virtually identical to the facts presented in the instant matter. Order 2005-0028 provides in relevant part as follows:

Secondary Dischargers: The City and County of San Francisco and ECOR-SF Holdings, Inc., as current property owners not involved in past operations, are designated as Secondary Dischargers. Secondary Dischargers are required to provide reasonable cooperation and access necessary for environmental investigation, cleanup, monitoring and risk management. As long as the City and County of San Francisco and ECOR-SF Holdings, Inc. provide reasonable cooperation and access for investigation, cleanup, monitoring and risk management, the Board will not name them as Primary Dischargers responsible to complete the requirements of this Order. Unless specifically required in this

¹ We recognize that Water Board staff has suggested that it would be inappropriate to designate the Port as secondarily responsible here because the primary dischargers have not undertaken site clean up. Yet the record is clear that the primary dischargers have engaged in some characterization work at the site – in the absence of a formal Water Board order. To justify a decision not to name the Port as secondarily liable because the primarily responsible parties have not undertaken clean up is to put the cart before the horse; there is currently no order requiring them to do so. If the primarily responsible parties do not comply with the Tentative Order, when issued, then the Water Board can look to a secondarily responsible party. Staff has also suggested that naming the Port as a secondary discharger might somehow delay ultimate clean up of the site. However, there is nothing in the record to support this suggestion. In fact, if the Port is named as a secondary discharger it will have significant incentives to work to compel the primary dischargers to comply with the Order. Conversely, if the Port is named as a primary discharger the two large corporations which actually caused the contamination may have an incentive to sit on their hands, and let a public agency bear the cost of the cleanup.

Mr. Cecilio S. Felix
August 6, 2007
Page 3

Order, the Secondary Dischargers will be responsible for compliance only if the Board or Executive Officer finds that the Primary Dischargers have failed to comply with the requirements of this order. In such case, the Secondary Dischargers will be notified and be given a reasonable opportunity to comply.

Order 2005-0028, p. 5. A copy of Order 2005-0028 is attached to this letter as Attachment 2.

The Water Board treated the City and County of San Francisco in the same way – as a “secondary discharger” – just last year, when it adopted Order R2-2006-0020 involving a former bulk fuel terminal adjacent to San Francisco Bay. There, the RWQCB stated as follows:

The Port of San Francisco is named as a Secondary Discharger because the Port held title to and managed the Site property during the time of the releases and currently holds title to the Site. The Port will be responsible for compliance only if ExxonMobil fails to comply with the requirements of this Order. In the event ExxonMobil fails to comply with this Order, the Port shall be notified in writing of its obligation to meet the specified task(s). The Water Board will evaluate deadlines as necessary to determine whether the Port has sufficient time to comply.

Order 2006-020, p. 8. A copy of Order 2006-0020 is attached to this letter as Attachment 3.

The two orders I have just discussed are not unusual. This Water Board has consistently designated the City and County of San Francisco, and other governmental entities, as “secondary dischargers” in situations similar to the one presented here – where that entity has been a property owner, but not the cause of the actual discharge. *See e.g.* Order No. 99-045 (City and County of San Francisco “secondary discharger” at San Francisco International Airport site); Order No. 94-017 (City and County of San Francisco “secondary discharger” at Pacific Rod and Gun Club site); Order No. 94-031 (City and County of San Francisco secondarily responsible at Peninsula Sportsmen’s Club); Order No. 94-078 (United States Postal Service secondarily responsible at 1587 Dell Avenue site, Campbell, California). The Water Board has accorded similar treatments to non-governmental entities as well. *See e.g.* Order No. 98-033 (current property owner, Limar Realty Corp. designated a “secondary discharger” at 680 W. Maude Avenue site, Sunnyvale, California; Order No. 94-061 (current property owner Foothill Savings & Loan named as secondary discharger at 1836-181858 Bay Road Operable Unit, East Palo Alto, California); Order No. 87-164 (Leland Stanford Junior University secondarily responsible at Hewlett-Packard 640 Page Mill Road site).

In sum, we can see no legal or factual basis for the Water Board to treat the Port of Richmond differently from the way it has treated the City and County of San Francisco, the

Mr. Cecilio S. Felix
August 6, 2007
Page 4

United States Postal Service, Stanford University, and numerous other parties. Accordingly we repeat our request that the above-referenced Tentative Order include the following language, in Paragraph 5:

The Port of Richmond, as a current property owner not involved in past operations, is designated as a Secondary Discharger. The Secondary Discharger is required to provide reasonable cooperation and access necessary for environmental investigation, cleanup, monitoring and risk management. As long as the Port of Richmond provides reasonable cooperation and access for investigation, cleanup, monitoring and risk management, the Board will not name it as a Primary Discharger responsible to complete the requirements of this Order. Unless specifically required in this Order, the Secondary Discharger will be responsible for compliance only if the Board or Executive Officer finds that the Primary Dischargers have failed to comply with the requirements of this order. In such case, the Secondary Discharger will be notified and be given a reasonable opportunity to comply.

Thank you for your attention to these comments. We are happy to meet with you to discuss these issues, and any other pertinent matters, at your convenience.²

Very truly yours,

ROBERT C. GOODMAN

RCG:cjb

cc: Louise Renne, Esq., Interim City Attorney
Todd Maiden, Esq.
Steven Tekosky, Esq.

² You did not include me, or Ms. Renne, on your distribution list for the July 20, 2007, revision to the Tentative Order. We have requested that the Water Board include both of us on all future communications concerning this site, and it is my understanding that you have agreed to do so.

3.55 pm
AUG 06 2007

6 August 2007

Cecil Felix
Associate Engineering Geologist
California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612

**Subject: Comments and Additional Revisions Needed to Tentative Order for SCRs
Port of Richmond Terminal 4 (RWQCB File No: 2119.1231)
Richmond, Contra Costa County**

Dear Mr. Felix:

This letter provides comments on the revised Tentative Order dated July 7, 2007 for Site Cleanup Requirements (SCRs), the Tentative Order, for the Port of Richmond Terminal 4 (the Site, Figures 1 and 2). The revised Tentative Order still includes fundamental inaccuracies and unsupported assertions that require attention and revision. A mark-up version of the July 7, 2007 version of the tentative order with our requested modifications is provided as Attachment 1. The comments on the previous version of the tentative order dated May 17, 2007 that were provided to you dated 15 June 2007 also apply to the revised Tentative Order.

Despite the numerous revisions to the Tentative Order the fact remains that based on extensive site characterization and investigation data, no credible evidence links the former leasehold or operations of Vopak Terminal Richmond, Inc (Vopak) to the free-phase petroleum hydrocarbon oily fuel¹ under the former Pacific Molasses Products (PM Ag, United Molasses) leasehold that was seeping from the beach in 2001. Figures 1 and 2 show the estimated extent of free-phase oily fuel in soil and on groundwater based on numerous borings installed in the area.

We note that Section 7 (Remedial Investigations) of the tentative order refers to "Discharge of oil product in storm water, near the location of the beach seep and a "release of petroleum hydrocarbon product from the Vopak Site to Bay waters". Are these the same thing? There is no evidence of "release of petroleum hydrocarbon product from the Vopak Site to Bay waters" other than an observation of a sheen on the bay caused by storm water release due to unusually heavy

¹ For consistency with the terminology in Tentative Order, the term "free-phase petroleum hydrocarbon" is used in this letter. Note, however, that other portions of this submittal and many documents previously submitted to the RWQCB for this Site use the term Separate Phase Hydrocarbon (SPH) oily fuel for the same thing.

rainfall and flooding on 25 November 1985. Based on historical rainfall records for the area, approximately 1.25 inches of rain fell on 25 November 1985. Rainfall of this intensity is a rare occurrence. The 1985 storm water release caused a sheen on the bay that could have been LABs or vegetable oil. The release was investigated and documented. No records or field evidence suggest that the 1985 release could possibly be the source of the free-phase petroleum hydrocarbon oily fuel² beneath the former PM Ag facility or the July 2001 free-phase petroleum hydrocarbon oily seep on the beach. This allegation is inconsistent with field evidence as well as fundamental hydrogeology and physics.

In the Site History section of the tentative order, the list of products stored by Vopak implies that Vopak mostly stored petroleum oils. Based on an inventory list previously submitted to the RWQCB and provided again with Attachment 2 to this letter, 72% of Vopak's inventory by volume in the former 500-series tank farm area was non-petroleum oils. A table and pie charts summarizing Vopak's inventory is included as Attachment 2.

Chemical Impacts beneath former PM Ag and Vopak Facilities are Distinctly Different

Detailed chemical characterization of contamination in soil and groundwater establishes that the majority of contamination beneath the former Vopak 500-series tank farm is linear alkylbenzenes (LABs) and the majority of contamination beneath the former PM Ag parcel is degraded heavy hydrocarbon fuel. Chromatographic analyses document that degraded heavy hydrocarbon fuel beneath the former PM Ag parcel is consistent with the oil that seeped from the beach. Chromatographic analyses also establish that the LABs beneath the former Vopak 500-series tank farm area are a distinctly different class of derivatives from petroleum hydrocarbons. Moreover, the lab and field data indicate that only LABs have migrated in the subsurface from the former Vopak 500-series area to the former PM Ag parcel.

The distinct difference between chemical impacts beneath the former Vopak 500-series tank farm and the former PM Ag parcel was first established by investigations conducted on behalf of PM Ag. Figures 3, 4, and 5 show tentative identification of petroleum hydrocarbons detected in soil and groundwater reported on behalf of PM Ag. Figure 3 is from PM Ag's first characterization report (QEPI, March 2002). Figures 4 and 5 are reproduced from large sheets included with PM Ag's second characterization report (QEPI, August 2002).

² For consistency with the terminology in Tentative Order, the term "free-phase petroleum hydrocarbon" is used in this letter. Note, however, that other portions of this submittal and many documents previously submitted to the RWQCB for this Site use the term Separate Phase Hydrocarbon (SPH) oily fuel for the same thing.

The laboratory report by Zymax Forensics dated January 10, 2002, which is included as Appendix I in QEPI's first characterization report (QEPI, March 2002), provides detailed technical description of the basis for characterization of the contaminants. The Zymax lab report describes results of detailed analysis by GC/mass spectrometry in full scan mode of four samples:

1. PM Ag boiler tank water;
2. hydrocarbon product from the beach (BS-1) adjacent to the former PM Ag facility;
3. hydrocarbon product from boring B-18 at former PM Ag facility; and
4. water from boring B-11 at former Vopak 500-series tank area.

Product samples from the beach (BS-1) and a boring at the former PM Ag facility (B-18) "show very similar patterns, which suggest a degraded heavy petroleum fuel." They "contain degraded #6 fuel oil that has been exposed to the environment for a considerable period of time. The samples have a very similar composition and appear to be from a similar source. The water extract from the [PM Ag] Boiler tank contains a relatively undegraded #6 fuel oil with some recent biological material. ..."

Chemical make-up of the detailed analysis of a water sample from boring B-11 at former Vopak 500-series tank area is very different from the samples from the beach and the boring and boiler tank at the former PM Ag facility. The Zymax lab report documents that samples from B-11 and B-14 from the former Vopak 500-series tank area contain a "linear alkylbenzene industrial product" mix. Numerous specific differences in the chemical constituents of contamination beneath the former Vopak and PM Ag facilities are documented in the Zymax lab report.

Misleading and inaccurate information from Port of Richmond Test Pits

In August and September 2001, the Port of Richmond³ excavated 32 exploratory test pits with a back hoe on the former PM Ag and Vopak properties and 6 smaller hand-dug holes on the beach. The field notes⁴ record the presence of "oil" in several of the test pits. An earlier draft of the tentative order, which was attached to a comment letter dated June 20, 2007 submitted by the City of Richmond to you, includes a figure adapted from QEPI showing the estimated locations of the test pits. Based on the City of Richmond's field notes, QEPI shows the test pits in which "oil" was observed. However, laboratory data described above, and boring logs submitted on

³ The Port of Richmond and City of Richmond are used interchangeably in documents pertaining to this case.

⁴ The Port of Richmond's field notes and sketch map have been provided to the RWQCB with attachments to several reports, including Appendix B to SSP&A's December 2002 Site Characterization Report.

behalf of PM Ag and Voapk show that term “oil” on the City of Richmond notes refers to entirely different chemicals beneath the former Vopak 500-series area compared to beneath the former Pm Ag parcel. Figure 6 is a site map that includes the locations of the Port of Richmond’s test pits based on GPS coordinates provided on the field notes. Figure 6 also shows identification by Zymax laboratory of chemical impacts at borings installed on behalf of PM Ag (see also Figures 3, 4 and 5).

The Evidence is Abundant and Clear

The Site is well characterized by some 75 borings and more than 30 test pits. Laboratory analyses conducted on behalf of PM Ag established that chemical impacts beneath the former PM Ag facility are distinct from chemical impacts beneath the former Vopak 500-series tank area. Field observations recorded on boring logs are consistent with the laboratory analyses: Degraded heavy fuel oil is present beneath the former PM Ag facility, but not beneath the former Vopak 500-series tank area.

Laboratory analyses report a heavy fuel oil in a boiler tank on the former PM Ag facility, and a boring log (B-8) submitted by PM Ag for a location near the center of the extent free-phase heavy petroleum fuel documents “product coated” soil near a former PM Ag UST and boiler house. The statement submitted to the RWQCB on behalf of United Molasses (PM Ag) that “they have clearly demonstrated that the source of contamination is upgradient of the former United Molasses Company leasehold” are simply false and contradict facts that have been reported on behalf of United Molasses Company. In short, such a statement may represent nothing more than PM Ag’s wishful thinking, but it is not supported by, and in fact it is contradicted by, the extensive data at both parcels.

As documented in Attachment 1 to my June 15, 2007 letter to you, other unsubstantiated allegations that have been made on behalf of PM Ag in an attempt to explain the source of the oily fuel beneath the former PM Ag facility and the beach seep include a 1971 oil spill near Golden Gate Bridge; an undocumented fuel source near the former Vopak warehouse; a storm water release; and a release when the Vopak tanks were removed in 2000-2001. None of these allegations are based on facts.

The facts are well established by site characterization data:

1. Degraded heavy petroleum hydrocarbon fuel is present beneath the former PM Ag facility and in 2001 it seeped out on the beach with water from a leaking EBMUD water pipe.
2. Linear alkylbenzenes are present beneath the former Vopak 500-series area that are very different from and unrelated to the degraded heavy petroleum hydrocarbon fuel that is present beneath the former PM Ag facility.

We recognize that it is not the policy of the Board not to allocate or apportion responsibility between the dischargers. However, abundant evidence establishes distinct chemical impacts in different parcels at Richmond Terminal 4. This is not a case where we seek apportionment among multiple dischargers: but rather a case with distinct contaminants on two separate parcels, which can be considered two sites. The circumstance of common ownership of the two adjoining parcels by Richmond does not make this a single site.

Revision of the tentative order is needed to make it consistent with the facts that establish distinct chemical impacts by distinct dischargers. This is not allocation or apportionment, but simply representation of the facts. This can be accomplished either by identification of responsibility for different areas and contaminants in one order, or by issuing separate orders. In either case the order, or orders, must be consistent with the fact that no evidence indicates that Vopak contributed to the free-phase petroleum hydrocarbon oily fuel beneath the former PM Ag facility, which seeped from the beach in 2001 and is deemed by the Tentative Order to be the most severe contamination. The requested edits and comments on the Tentative Order provided as Attachment 1 do not include fundamental revision of structure of the order.

Please note that mark-ups of an earlier draft tentative order for this case on file at the RWQCB include striking Vopak from the list of dischargers. A copy of the first two pages of this marked-up order from the RWQCB file is provided as Attachment 3. Apparently a previous case worker recognized that evidence is clear for distinct chemical impacts and distinct dischargers at Terminal 4 Richmond.

I look forward to hearing from you on this matter and request to meet with you and Terry Seward, who provided regulatory oversight in the early stages of the investigation.

Sincerely,



Gordon Thrupp, PhD, P.G., CHg
Associate Hydrogeologist



Attachments:

- Six Figures
- References Cited
- Attachment 1: Requested Changes to July 7, 2007 Tentative Order
- Attachment 2: Vopak inventory
- Attachment 3: First two pages of marked-up draft tentative order from RWQCB file

cc: Bruce H. Wolf, Executive Officer, SF RWQCB
Quirino Wong, Manager, Environmental Affairs, Vopak North America Inc.
Steve Tekosky, Tatro Tekosky Sadwick, LLP
Todd Maiden, Reed Smith
Don Moster, United Molasses
Norman Chan, Port of Richmond
Robert Doty, Cox, Castle, & Nicholson, LLP
The Honorable Tom Butt, Richmond City Councilmember

From: "Steve Tekosky" <SteveTekosky@ttsmlaw.com>
To: "Cecil Felix" <CFelix@waterboards.ca.gov>
Date: 8/6/2007 2:15:34 PM
Subject: RE: Comments on Maiden Jan 07 ltr to RWQCB, Richmond Terminal4

Cecil In conjunction with the comments submitted on behalf of Vopak by Gordon Thrupp of Geosyntec, Vopak respectfully asks the Board to consider naming the East Bay Municipal Utility District ("EBMUD") as a discharger with respect to the PM Ag former leasehold. Data collected at the site indicate that leaking water from EBMUD's pipeline caused oily petroleum hydrocarbon fuel in soil beneath the former PM Ag leasehold to discharge to the San Francisco Bay. Thanks. Steve

From: Cecil Felix [mailto:CFelix@waterboards.ca.gov]
Sent: Fri 7/20/2007 4:36 PM
To: nchan@ci.richmond.ca.us; GThrupp@Geosyntec.com; tom.butt@intres.com; tmaiden@reedsmith.com; dmoster2@tlna.com; Steve Tekosky; lou.ann.flanz@vopak.com; quirino.wong@vopak.com
Subject: Re: Comments on Maiden Jan 07 ltr to RWQCB, Richmond Terminal4

Staff have prepared a revised tentative order after considering the comments to the previous tentative order. A pdf version of the revised tentative order is attached, along with a transmittal letter. I'll call discharger representatives to discuss the revised tentative order on Tuesday.

-Cecil

From: "Taylor, Molly A." <MATaylor@ReedSmith.com>
To: "Cecil Felix" <CFelix@waterboards.ca.gov>
Date: 8/6/2007 3:29:15 PM
Subject: PM Ag Comments to Port of Richmond, Terminal 4 draft Tentative Order and Self-Monitoring Program

Dear Cecil,

Attached, please find a cover letter and a copy of the Port of Richmond, Terminal 4 draft Tentative Order and Self-Monitoring Program, which includes the comments of PM Ag. We are also sending a copy to you by mail for your convenience.

Please do not hesitate to contact our office with any questions or concerns.

Thank you,
Molly Taylor

Molly A. Taylor
415.659.5981
mataylor@reedsmith.com
Reed SmithLLP
Two Embarcadero Center
Suite 2000
415.543.8700
Fax 415.391.8269

<<8-6-07_Coverletter.pdf>> <<8-06-2007_PM Ag Comments to Tentative Order.pdf>>

* * *

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CC: "Maiden, Todd O." <TMaiden@ReedSmith.com>, "Canton, Veronica L." <VCanton@ReedSmith.com>

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August 6, 2007

VIA ELECTRONIC AND U.S. MAIL

Cecil Felix
Associate Engineering Geologist
Cal. RWQCB, San Francisco Bay Region
1515 Clay Street
Suite 1400
Oakland, CA 94612

RE: **Point of Richmond, Terminal 4: Comments to Tentative Order for Site
Cleanup Requirements and Self-Monitoring Program**

Dear Cecil:

Enclosed please find a copy of the Port of Richmond, Terminal 4, Tentative Order for Site Cleanup Requirements and the Self-Monitoring Program for Terminal 4, which incorporate comments from the United Molasses Company. For your convenience, the document is a redline version highlighting the specific changes recommended by the United Molasses Company.

As we have discussed, the United Molasses Company is disappointed to be named as a discharger in the Tentative Order. In light of the extensive investigation completed, the United Molasses Company feels they have clearly demonstrated that the source of contamination at this site is upgradient of the former United Molasses Company's leasehold. However, we will continue to cooperate with the Regional Water Quality Control Board in an effort to take appropriate response actions relating to impacts, if any, associated with the United Molasses Company.

Please feel free to contact our office with any further questions or concerns.

Very truly yours,


Todd O. Maiden

Enclosures

NEW YORK ♦ LONDON ♦ CHICAGO ♦ PARIS ♦ LOS ANGELES ♦ WASHINGTON, D.C. ♦ SAN FRANCISCO ♦ PHILADELPHIA ♦ PITTSBURGH ♦ OAKLAND

MUNICH ♦ ABU DHABI ♦ PRINCETON ♦ NORTHERN VIRGINIA ♦ WILMINGTON ♦ BIRMINGHAM ♦ DUBAI ♦ CENTURY CITY ♦ RICHMOND ♦ GREECE

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DOCSSFO-12486562.1

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

TENTATIVE ORDER FOR SITE CLEANUP REQUIREMENTS

PORT OF RICHMOND
VOPAK NORTH AMERICA, INC.
UNITED MOLASSES COMPANY

PORT OF RICHMOND TERMINAL 4
RICHMOND, CONTRA COSTA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board), finds that:

1. **Site Location and Description:** Port of Richmond Terminal 4 (hereinafter referred to as the Site) is located in Contra Costa County on Point San Pablo, near the northwest tip of Richmond, California (see Figure 1). The Site is located on a peninsula, jutting into the San Francisco Bay. The City of Richmond lies to the east. The Site is owned by the Port of Richmond. At the site were two longtime former leaseholds adjacent to one another: the Vopak North America Inc. (Vopak) leasehold and the United Molasses Company leasehold. The Vopak leasehold consisted of approximately 9.5 acres of land used for a bulk oil storage facility and included a large quantity of aboveground tanks, related structures, and underground storage tanks. The United Molasses Company leasehold consisted of approximately six acres of land hydraulically downgradient and southwest of the Vopak leasehold used for bulk storage, handling, and distribution of agricultural products in aboveground, underground storage tanks, and related structures (see Figure 2).
2. **Site History: Vopak:** Vopak and its predecessors, which include Dorward & Sons and Paktak California, began operating a bulk oil storage facility on its Leasehold at the Site in 1917. Vopak and its predecessors stored products including, but not limited to, lubricating oils, diesel fuel, neutral oil 100 and 500, Grade 4 oil, distillate oil, No. 5 fuel oil, No. 6 fuel oil, jet fuel, polybutane, toluene, xylene, alkylbenzene, alcohols, animal and vegetable oils, liquid fertilizers, and phosphoric acids. The products were contained in approximately 100 aboveground storage tanks with a capacity ranging from 1000 to 3.9 million gallons, with a total capacity of 21,000,000 gallons. Vopak ceased operations in 2000, and demolished and removed the tanks by 2001. An undetermined number of underground storage tanks were also located at the Site. Two former pipelines transported alkene, propylene tetramer, and polymers from the neighboring Chevron Refinery to the Vopak facility. The pipelines were constructed, owned and operated by Chevron.

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United Molasses Company: United Molasses Company and its predecessors, PM Ag and Pacific Molasses Company, began operating on their Site leasehold in 1936. PM Ag and Pacific Molasses Company were engaged in aboveground bulk storage, handling, and distribution of commercial agricultural products. Products included coconut oil, lignin liquor, linseed oil, cane molasses, blackstrap molasses, beet molasses, and tallow. Two boilers were used until 1960 to heat and improve the transfer of products. The boilers were fired by diesel or light domestic fuel, which was contained in one aboveground storage tank (partially buried) of unknown size and one underground storage tank with a

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capacity of approximately 8,000 gallons. The 8,000-gallon tank was subsequently used to store diesel fuel for site vehicles until the mid-1980s. United Molasses Company removed one underground storage tank in 1990 and nine aboveground storage tanks in 1993, and ceased facility operations in 1993.

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3. Regulatory Status: This Site is currently not subject to a Board order. Site investigation has been required previously under Section 13267 of the Water Code.
4. Purpose of Order: This order establishes Site Cleanup Requirements (SCRs) for the Site, and includes provisions, specifications, tasks, and a schedule necessary to minimize the impacts of waste discharge into waters of the State. California Water Code Section 13304 authorizes the Board to issue orders requiring dischargers to cleanup and abate waste where the dischargers have caused or permitted waste to be discharged or deposited where it is or probably will be discharged into waters of the State and creates or threatens to create a condition of pollution or nuisance.
5. Named Dischargers: Vopak, United Molasses, and the Port of Richmond (collectively, Dischargers) are named as dischargers to this SCR. Although the dischargers dispute the relative contribution and extent of contaminants from their respective sites to the overall Site contamination, consistent with State Water Resource Control Board orders, it is the policy of the Board not to allocate or apportion responsibility between the dischargers named to SCRs.

Vopak: Vopak is named as a discharger because it and its predecessors have caused or permitted waste to be discharged into the waters of the State and create, or threatens to create, a condition of pollution or nuisance. Specifically: (a) Vopak and its predecessors operated a leasehold from 1917 to 2000 during which a large quantity of various chemicals were stored at Vopak's leasehold area; (b) Vopak is the successor in interest to those companies which operated a bulk oil storage facility at the Site; (c) chemicals consistent with Vopak's and its predecessor's operations (TPH as gas, diesel, and motor oil, alkylbenzene, benzene, ethylbenzene, xylene, and toluene) have been detected in soil and groundwater at the Site; (d) spill and leak reports have been filed for releases associated with the Vopak leasehold area of the Site, including a 1985 US Coast Guard notification of a discharge of oily storm water into the Bay from the Vopak tank farm, a 1986 leaking underground storage tank report, and a 1995 National Response Center report of an "unknown oil" discharging from the hillside below the Vopak tank farm; and e) technical reports document the presence of elevated concentrations of petroleum hydrocarbons originating from Vopak's former storage tanks. See also Finding No. 7 below.

United Molasses Company: United Molasses Company is named as a discharger because it and its predecessors caused or permitted waste to be discharged into waters of the State and create, or threatens to create, a condition of pollution or nuisance. Specifically: (a) United Molasses Company and its predecessors stored and used petroleum hydrocarbon fuel on its leasehold area of the Site from 1936 until the mid 1980s; (b) United Molasses Company is the successor in interest to those companies which stored and used petroleum hydrocarbon fuel at the Site; (c) chemicals consistent with United Molasses Company's operations (total petroleum hydrocarbons as diesel) have been detected in soil and groundwater at the Site; (however, analytical data indicates the petroleum hydrocarbons detected at the site are not related to diesel or light domestic fuels historically used at the site) and (d) one underground storage tank on the former United Molasses leasehold has been suspected as a source of release, as indicated by the presence of elevated levels of petroleum hydrocarbons as diesel in shallow soils in the vicinity of the tanks in

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underground storage tank removal reports and site investigation reports. See also Finding No. 7 below.

Port of Richmond: The Port of Richmond is named as a discharger because it is the current landowner of the Site. Additionally, the Port of Richmond was the owner of the Site since the early 1970's, a period during which Vopak and United Molasses Company and their predecessors leased the Site and caused the discharge of contaminants. The Port of Richmond acquired the Site from Vopak's predecessors.

6. **Site Hydrogeology:** The Site is located on the hilly peninsula of the Portrero-San Pablo Ridge, which is composed of the steeply dipping Franciscan complex. The bedrock is composed of sandstone, shale, and conglomerate. Past sea level fluctuations resulted in a complex sedimentary sequence of interfingered estuarine and alluvial fan deposits overlying the Franciscan Complex bedrock. The uppermost deposits, which consist of imported fill ranging from 3 to 30 feet deep overlies Bay Muds that consist of silt and silty clay with abundant plant matter. The Bay Muds overlie the Franciscan bedrock. The ground surface at the eastern/uphill portion of the Site consists of the Franciscan bedrock. The ground surface at the western/downhill portions of the Site consists of artificial fill. The Site is bounded by the Hayward Fault to the east and the San Pedro-San Pablo Fault to the west. Groundwater beneath the Site lies approximately 8-15 feet below the ground surface and generally flows to the west/southwest, and discharges into San Francisco Bay. The variable nature of the surface topography, subsurface materials, above and underground utilities and drainage structures poses challenges to predicting with absolute certainty the movement of surface water and groundwater at the Site and the migration of contaminants in water.

7. **Remedial Investigations:** Remedial investigations were conducted at the Site by Vopak, United Molasses Company, and the Port of Richmond in 2001-2003. The investigations were conducted to evaluate impacts of releases at the Site, including:

- Seepage of petroleum product observed along an area of the beach downgradient of the Vopak and United Molasses Company leasehold areas;
- Discharge of oil product in storm water, near the location of the beach seep
- Releases identified during tank removals at the Vopak and United Molasses sites;
- Releases associated with a EBMUD water line leak at the Vopak site; and,
- A release of petroleum hydrocarbon product from the Vopak site to Bay waters.

Site investigations included: soil sampling, trenching, and groundwater sampling throughout the Site. Potential source areas and areas along downgradient beach areas were also sampled. The investigations indicate that petroleum hydrocarbon contamination is present in large areas of the Site, including the Vopak tank farm area. The most severe contamination is free-phase petroleum hydrocarbon product in groundwater in the southern portion of the Site. This area is downgradient of the Vopak tank farm, underlies the former United Molasses Company leasehold, and extends to the beach area where the petroleum seeps were observed.

Free product is also present in the northern portion of the Site, downgradient of the Vopak storage tank farm. The documented releases of petroleum hydrocarbons at the Vopak leasehold and the occurrence of bulk quantities of the petroleum hydrocarbons downgradient of the Vopak bulk petroleum storage facilities indicates that Vopak is a source of petroleum hydrocarbons at the Site. Investigations also indicate that petroleum contaminants exist under the United Molasses Company leasehold and that a storage tank on the leasehold is a suspected source of petroleum hydrocarbon contamination at the

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Site. Because of the limited Site investigation data and the varying interpretations of the data, the vertical and lateral extent of soil and groundwater contamination originating from each source area, and the relative contribution from each source area to the overall Site contamination, cannot be conclusively determined.

8. **Interim Remedial Measures:** Interim remedial measures at the Site included removal of the sources and potential sources of contamination, including the underground and aboveground storage tanks and associated piping, at the former Vopak and United Molasses leaseholds. The beach seep, which occurred in 2001 when the storage tank facilities at the Vopak site were removed, ceased after an EBMUD water line leak running through the Vopak leasehold was repaired.
9. **Basin Plan:** The Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) is the Board's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater. It also includes programs of implementation to achieve water quality objectives. The Basin Plan was duly adopted by the Water Board and approved by the State Water Resources Control Board, U.S. EPA, and the Office of Administrative Law where required.

The potential beneficial uses of groundwater beneath the Site includes:

- a. Municipal and domestic water supply
- b. Industrial process water supply
- c. Industrial service water supply
- d. Agricultural water supply
- e. Freshwater replenishment to surface waters

At present, there is no known use of groundwater underlying the Site for the above purposes.

The existing beneficial uses of waters of San Francisco Bay includes:

- a. Municipal and domestic supply
- c. Industrial process supply or service supply
- e. Water contact and non-contact recreation
- f. Wildlife habitat
- g. Cold freshwater and warm freshwater habitat
- h. Fish migration and spawning
- i. Navigation
- j. Estuarine habitat
- k. Shellfish harvesting
- l. Preservation of rare and endangered species

10. **State Water Board Resolution No. 92-49:** State Water Board Resolution No. 92-49, "Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304," applies to this cleanup and requires cleanup and abatement of the effects of a discharge in a manner that promotes attainment of either background water quality, or the best water quality which is reasonable if background levels of water quality cannot be restored. Cleanup to levels other than background must be consistent with the maximum benefit to the people of the State, not unreasonably

affect present and anticipated beneficial uses of such water, and not result in water quality less than prescribe in the Basin Plan and policies adopted by the State and Region Water Boards. This Order does not yet prescribe clean-up levels, but requires the dischargers to investigate whether cleanup to background levels is feasible, as described in Provision B.5.

11. **Preliminary Cleanup Goals:** The dischargers will need to make assumptions about future cleanup standards for soil and groundwater, in order to determine the necessary extent of remedial investigation, interim remedial actions, and the draft remedial action plan. Pending the establishment of Site-specific cleanup standards, the following preliminary cleanup goals shall be used for these purposes:
 - a. **Groundwater:** Applicable water quality objectives (e.g. lower of primary (toxicity) and secondary (taste and odor) maximum contaminant levels, or MCLs) or, in the absence of a chemical-specific objective, equivalent drinking water levels based on toxicity and taste and odor concerns.
 - b. **Soil:** Applicable screening levels as compiled in the Board's draft Environmental Screening Levels (ESLs) document or its equivalent. Soil screening levels are intended to address a full range of exposure pathways, including direct exposure, indoor air impacts, nuisance, and leaching to groundwater.
12. **Cost Recovery:** Pursuant to California Water Code Section 13304, the dischargers are hereby notified that the Board is entitled to, and may seek reimbursement for, all reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order.
13. **CEQA:** This action is an order to enforce the laws and regulations administered by the Board. As such, this action is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to Section 15321 of the Resources Agency Guidelines.
14. **Public Notice:** The Board has notified the dischargers and interested agencies and persons of its intent to under California Water Code Section 13304 to prescribe site cleanup requirements for the discharge, and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
15. **Public Hearing:** The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to Section 13304 of the California Water Code, that the Dischargers shall cleanup and abate the effects described in the above findings as follows:

A. PROHIBITIONS

1. The discharge of wastes or hazardous substances in a manner which will degrade water quality or adversely affect beneficial uses of waters of the State is prohibited.
2. Further significant migration of wastes or hazardous substances through subsurface transport to waters of the State is prohibited.

3. Activities associated with the subsurface investigation and cleanup which will cause significant adverse migration of wastes or hazardous substances are prohibited.

B. TASKS

1. **WORKPLAN TO EVALUATE CURRENT SITE CONDITIONS**

COMPLIANCE DATE: January 1, 2008

Submit a workplan, acceptable to the Executive Officer, to evaluate current surface water and groundwater conditions at the Site, including, at a minimum: the extent of free and dissolved petroleum hydrocarbon product, the pathways and migration rates of contaminants in surface water, groundwater, soil, and bedrock, and, the current conditions of beach areas where historic releases have been observed. The workplan shall provide for resampling of all existing groundwater monitoring wells. The workplan shall specify investigation methods and a proposed time schedule for implementation of the workplan.

Comment [A1]: PM Ag suggests that this date be pushed forward to be commensurate with execution of this document, and proposes a January 1, 2008 deadline.

Deleted: November 1, 2007

2. **CURRENT SITE CONDITIONS REPORT**

COMPLIANCE DATE: May 1, 2008

Submit a technical report, acceptable to the Executive Officer, documenting completion of necessary tasks identified in the Task 1 workplan. The report shall describe the current Site conditions based on an evaluation of available site data. The report shall also propose additional investigation and a time schedule for implementation, if necessary, to provide additional data necessary to define the extent of surface water and groundwater impacts at the Site.

3. **WORKPLAN FOR INTERIM REMEDIAL ACTIONS**

COMPLIANCE DATE: July 1, 2008

Submit a workplan, acceptable to the Executive Officer, which proposes interim remedial actions for the Site. The interim remedial actions shall include the removal of free petroleum product from groundwater, elimination and prevention of the discharge of free or dissolved product into the bay, and remediation of any remaining impacts to beach areas and bay waters. The workplan shall specify the methods of remediation and include a proposed time schedule.

4. **REPORT DOCUMENTING IMPLEMENTATION OF INTERIM REMEDIAL ACTIONS**

COMPLIANCE DATE: December 1, 2008

Submit a technical report, acceptable to the Executive Officer, documenting implementation of interim remedial actions proposed in the Task 3 workplan. The report shall describe any variation with the interim remedial actions proposed in Task 3.

5. **WORKPLAN FOR FINAL REMEDIAL MEASURES**

COMPLIANCE DATE: April July 1, 2009

Submit a technical report, acceptable to the Executive Officer, evaluating the performance of interim remedial measures on both free and dissolved groundwater and surface water contamination at the Site. The report shall propose final cleanup plan which includes, at a minimum, the following:

- a. Results of any additional investigation
- b. Evaluation of the installed interim remedial actions
- c. Risk assessment for current and post-cleanup exposures
- d. Proposed numeric Site-specific final cleanup standards for soil and groundwater
- e. Feasibility study evaluating and proposing final remedial actions
- f. Implementation tasks and time schedule

Item e shall include projections of cost, effectiveness, benefits, and impact on public health, welfare, and the environment of each alternative action.

Item e shall consider the preliminary cleanup goals for soil and groundwater identified in finding 11 and shall address the attainability of background levels of water quality (see finding 10).

6. **SITE MONITORING PLAN**

COMPLIANCE DATE: December 1, 2007

Submit a workplan, acceptable to the Executive Officer, proposing a Site monitoring plan which will provide hydrological and water quality data necessary to evaluate Site conditions and the performance of interim and final remedial actions. The workplan shall specify wells to be monitored, monitoring frequency, and analytical methods.

Comment [A2]: PM Ag suggests that this date be pushed forward commensurate with execution of this document, and proposes a December 1, 2007 deadline.
Deleted: October 1, 2007

7. **Delayed Compliance:** If the dischargers are delayed, interrupted, or prevented from meeting one or more of the completion dates specified for the above tasks, the dischargers shall promptly notify the Executive Officer and the Board may consider revision to this Order.

C. **PROVISIONS**

1. **No Nuisance:** The storage, handling, treatment, or disposal of polluted soil or groundwater shall not create a nuisance as defined in California Water Code Section 13050(m).
2. **Good Operation and Maintenance (O&M):** The dischargers shall maintain in good working order and operate as efficiently as possible any facility or control system installed to achieve compliance with the requirements of this Order.

3. **Cost Recovery:** The dischargers shall be liable, pursuant to California Water Code Section 13304, to the Board for all reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order. If the site addressed by this Order is enrolled in a State Board-managed reimbursement program, reimbursement shall be made pursuant to this Order and according to the procedures established in that program. Any disputes raised by the dischargers over reimbursement amounts or methods used in that program shall be consistent with the dispute resolution procedures for that program.
4. **Access to Site and Records:** In accordance with California Water Code Section 13267(c), the dischargers shall permit the Board or its authorized representative:
 - a. Entry upon premises in which any pollution source exists, or may potentially exist, or in which any required records are kept, which are relevant to this Order.
 - b. Access to copy any records required to be kept under the requirements of this Order.
 - c. Inspection of any monitoring or remediation facilities installed in response to this Order.
 - d. Sampling of any groundwater or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the dischargers.
5. **Self-Monitoring Program:** The dischargers shall comply with the Self Monitoring Program as attached to this Order and as may be amended by the Executive Officer.
6. **Contractor / Consultant Qualifications:** All technical documents shall be signed by and stamped with the seal of a California registered professional geologist, a California certified engineering geologist, or a California registered civil engineer.
7. **Lab Qualifications:** All samples shall be analyzed by State-certified laboratories or laboratories accepted by the Board using approved EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/ quality control (QA/QC) records for Board review. This provision does not apply to analyses that can only reasonably be performed on-site (e.g. temperature).
8. **Document Distribution:** Copies of all correspondence, technical reports, and other documents pertaining to compliance with this Order shall be provided to the following agencies:
 - a. City of Richmond, Richmond Community Redevelopment Agency
 - b. Contra Costa County, Department of Environmental Health

The Executive Officer may modify this distribution list as needed.

9. **Reporting of Changed Owner or Operator:** The dischargers shall file a technical report on any changes in Site occupancy or ownership associated with the property described in this Order.
10. **Reporting of Hazardous Substance Release:** If any hazardous substance is discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, the dischargers shall report such discharge to the Board by calling (510) 622-2369 during regular office hours (Monday through Friday, 8:00 to 5:00).

A written report shall be filed with the Board within five working days. The report shall describe: the nature of the hazardous substance, estimated quantity involved, duration of incident, cause of release, estimated size of affected area, nature of effect, corrective actions taken or planned, schedule of corrective actions planned, and persons/agencies notified.

This reporting is in addition to reporting to the Office of Emergency Services required pursuant to the Health and Safety Code.

11. **Periodic SCR Review:** The Board will review this Order periodically and may revise it when necessary. The dischargers may request revisions and upon review the Executive Officer may recommend that the Board revise these requirements.

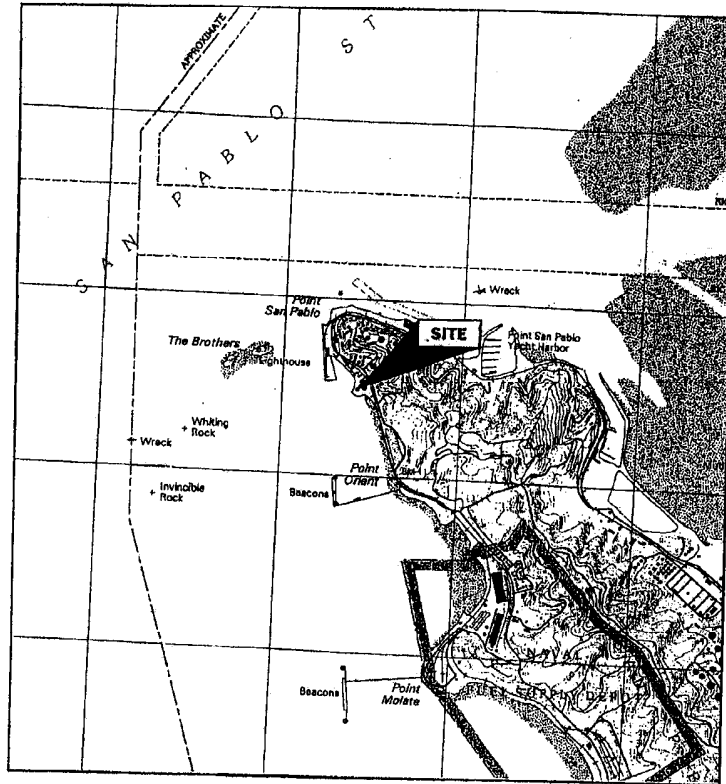
I, Bruce H. Wolfe, Executive Officer, do hereby certify that the foregoing is a full, complete, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on _____.

Bruce H. Wolfe
Executive Officer

Figures: Figure 1 - Location Map
 Figure 2 - Site/Free Product Plume Map

Attachment: Self-Monitoring Program

Site Location Map
San Quentin Quadrangle
Township 1 North, Range 5 West



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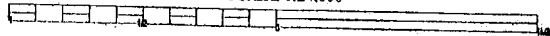
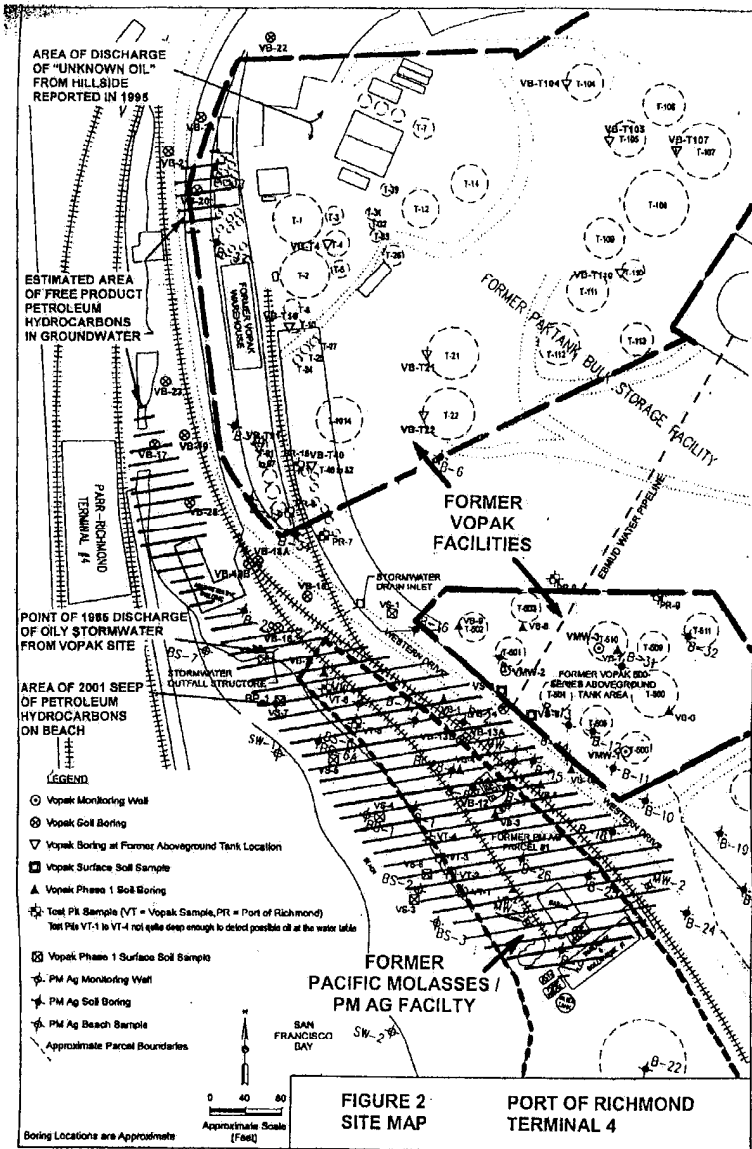


FIGURE 1
SITE LOCATION MAP

PORT OF RICHMOND - TERMINAL 4
RICHMOND, CONTRA COSTA COUNTY



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM FOR:

**PORT OF RICHMOND
VOPAK NORTH AMERICA, INC.
UNITED MOLASSES COMPANY**

**PORT OF RICHMOND TERMINAL 4
RICHMOND, CONTRA COSTA COUNTY**

for the property located at

**PORT OF RICHMOND) TERMINAL 4
RICHMOND, CONTRA COSTA COUNTY**

1. **Authority and Purpose:** The Board requests the technical reports required in this Self-Monitoring Program pursuant to Water Code Sections 13267 and 13304. This Self-Monitoring Program is intended to document compliance with Board Order No. XX-XXX (site cleanup requirements).
2. **Monitoring:** The dischargers shall measure groundwater elevations and shall collect and analyze representative samples of groundwater quarterly in all existing monitoring wells. Analytes shall be analyzed utilizing the following EPA laboratory analytical methods:

Analyte	EPA Method
TPH gas	5030 or equivalent
TPH diesel	3510 or equivalent
BTEX	8260 or equivalent
MTBE and other fuel oxygenates	8260 or equivalent

The dischargers shall sample any new monitoring or extraction wells quarterly and analyze groundwater samples for the same constituents as above table. The dischargers may propose changes in the above table; any proposed changes are subject to Executive Officer approval.

3. **Quarterly Monitoring Reports:** The dischargers shall submit quarterly monitoring reports to the Board no later than 30 days following the end of the quarter (e.g. report for first quarter of the year due April 30). The first quarterly monitoring report shall be due on April 30, 2008. The reports shall include:

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- a. **Transmittal Letter:** The transmittal letter shall discuss any violations during the reporting period and actions taken or planned to correct the problem. The letter shall be signed by the dischargers' principal executive officer or his/her duly authorized representative, and shall include a statement by the official, under penalty of perjury, that the report is true and correct to the best of the official's knowledge.

- b. **Groundwater Elevations:** Groundwater elevation data shall be presented in tabular form, and a groundwater elevation map shall be prepared for each monitored water-bearing zone. Historical groundwater elevations shall be included in the fourth quarterly report each year.
 - c. **Groundwater Analyses:** Groundwater sampling data shall be presented in tabular form, and an isoconcentration map shall be prepared for one or more key contaminants for each monitored water-bearing zone, as appropriate. The report shall indicate the analytical method used, detection limits obtained for each reported constituent, and a summary of QA/QC data. Historical groundwater sampling results shall be included in the fourth quarterly report each year. The report shall describe any significant increases in contaminant concentrations since the last report, and any measures proposed to address the increases. Supporting data, such as lab data sheets, need not be included (however, see record keeping - below).
 - d. **Groundwater Extraction:** If applicable, the report shall include groundwater extraction results in tabular form, for each extraction well and for the Site as a whole, expressed in gallons per minute and total groundwater volume for the quarter. The report shall also include contaminant removal results, from groundwater extraction wells and from other remediation systems (e.g. soil vapor extraction), expressed in units of chemical mass per day and mass for the quarter. Historical mass removal results shall be included in the fourth quarterly report each year.
 - e. **Status Report:** The quarterly report shall describe relevant work completed during the reporting period (e.g. site investigation, interim remedial measures) and work planned for the following quarter.
4. **Violation Reports:** If the dischargers violate requirements in the Site Cleanup Requirements, then the dischargers shall notify the Board office by telephone as soon as practicable once the dischargers have knowledge of the violation. Board staff may, depending on violation severity, require the dischargers to submit a separate technical report on the violation within five working days of telephone notification.
 5. **Electronic Reporting:** In addition to print submittals, all reports submitted pursuant to this Order must be submitted as electronic files in **PDF format**. The Water Board has implemented a document imaging system, which is ultimately intended to reduce the need for printed report storage space and streamline the public file review process. Documents in the imaging system may be viewed, and print copies made, by the public, during file reviews conducted at the Water Board's office. PDF files can be created by converting the original electronic file format (e.g., Microsoft Word) and/or by scanning printed text, figures & tables. Data tables containing water level measurements, sample analytical results, coordinates, elevations, and other monitoring information shall also be provided electronically in **Microsoft Excel® or similar spreadsheet format** to provide an easy to review summary, and to facilitate data computations and/or plotting that Water Board staff may undertake during their review. Data tables submitted in electronic spreadsheet format will not be included in the case file for public review. All electronic files must be submitted on CD or diskette and included with the print report.
 6. **Other Reports:** The dischargers shall notify the Board in writing prior to any Site activities, such as construction or underground tank removal, which have the potential to cause further migration of contaminants or which would provide new opportunities for Site investigation.

7. **Record Keeping:** The dischargers or their agents shall retain data generated for the above reports, including lab results and QA/QC data, for a minimum of six years after origination and shall make them available to the Board upon request.
8. **SMP Revisions:** Revisions to the Self-Monitoring Program may be ordered by the Executive Officer, either on his/her own initiative or at the request of the dischargers. Prior to making SMP revisions, the Executive Officer will consider the burden, including costs, of associated self monitoring reports relative to the benefits to be obtained from these reports.

I, Bruce H. Wolfe, Executive Officer, hereby certify that this Self Monitoring Program was adopted by the Board on _____.

Bruce H. Wolfe
Executive Officer