# California Regional Water Quality Control Board
## San Francisco Bay Region

Terry Tamminen
*Secretary for Environmental Protection*

1515 Clay Street, Suite 1400, Oakland, California 94612
(510) 622-2300 • Fax (510) 622-2460
http://www.swrcb.ca.gov/rwqcb2

Arnold Schwarzenegger
*Governor*

Date: JUL 2 8 2004

Certified Mail Nos.

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7003226000021258651 4
Shore Terminals, LLC
Att: Richard Brandes
2801 Waterfront Road
Martinez, CA 94553

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7003226000021258650 7
Wickland Oil Company
Att: Daniel Hall
3610 American River Drive, Suite 140
Sacramento, CA 95864

**SUBJECT: Adopted Order No. R2-2004-0064 – Site Cleanup Requirements, Shore Selby Facility, 90 San Pablo Avenue, Crockett, Contra Costa County**

Dear Sirs:

The San Francisco Bay Regional Water Quality Control Board adopted Order No. R2-2004-0064 (enclosed) at its regular monthly meeting on Wednesday, July 21, 2004.

Should you have any questions please contact Michael Bessette Rochette at 510-622-2411 or by email at mbr@rb2.swrcb.ca.gov.

Sincerely,

Bruce H. Wolfe
Executive Officer

Enclosed: Order No. R2-2004-0064

cc: Tracy Sizemore, ConocoPhillips Company, 1500 North Priest Drive, Tempe, AZ 85281
Michael Roth, John Swett Unified School District, 341 B Street, Crockett, CA 94525
Michael Grant, Union Pacific Railroad, 49 Stevenson Street, Suite 1050, San Francisco, CA 94105
Larry McDaniel, DTSC, Office of Legal Counsel, PO Box 806, Sacramento, CA 95812-0806
Remedios Sunga, DTSC, 700 Heinz Avenue, Suite 200, Berkeley, CA 94710
Mark Piros, DTSC, 700 Heinz Avenue, Suite 200, Berkeley, CA 94710
Sara Greinger, US Environmental Protection Agency, 75 Hawthorne Street, San Francisco, CA 94105
Donn Zuroski, US Environmental Protection Agency, 75 Hawthorne Street, San Francisco, CA 94105
Jonathan Clark, State Lands Com., DLM, 100 Howe Ave. Ste. 100-South, Sacramento, CA 95825-8202
Alan Nack, Department of Fish and Game-OSPR, PO Box 944209, Sacramento, CA 94244-2090
Kent Peterson, Crockett-Valona Sanitary District, PO Box 578, Crockett CA 94525
Peter McGaw, Archer Norris Inc, 2033 N.Main St, Ste 800, POB 8035, Walnut Creek, CA 94596-3728

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. R2-2004-0064
SITE CLEANUP REQUIREMENTS FOR:

**SHORE TERMINALS LLC**
**WICKLAND OIL COMPANY**

for the property located at:
**90 SAN PABLO AVENUE**
**CROCKETT, CONTRA COSTA COUNTY**

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

FINDINGS

1) **Purpose of Order**
The purpose of this Order is to establish Site Cleanup Requirements (SCRs) for the investigation and remediation of petroleum hydrocarbon and Methyl Tertiary Butyl Ether (MTBE) impacted soil and groundwater associated with the operation of the Shore Selby Terminal Facility (the Facility). Waste regulated under this Order is generally the result of historical petroleum hydrocarbon and MTBE spills and leaks that occurred during the course of operations at the Facility.

2) **Site Location**
The Facility is located between the towns of Crockett and Rodeo, in northwestern Contra Costa County. The Facility is geographically located in a relatively narrow, northwest trending valley of the Canada del Cierbo creek watershed, which drains northerly into San Pablo Bay. (Figure 1)

The Facility is composed of three separate areas: the Main Terminal Area; the Rail Transfer Area; and the Marine Wharf Area. (Figure 2) Each of these areas is an integral component of the overall Facility's operations and is interconnected via subsurface piping.

The Main Terminal Area serves as the Facility's headquarters and is located at 90 San Pablo Avenue, in Crockett. The Main Terminal Area is bounded to the southeast by Interstate 80, to the northwest by San Pablo Avenue, to the southwest by the ConocoPhillips refinery, and to the northeast by open land and the small residential community of Tormey.

The Rail Transfer Area is located approximately 1,300 feet northwest of the Main Terminal Area, on a southern spur of the Union Pacific Railroad. The Marine Wharf Area is located approximately 2,500 feet north of the Rail Transfer Area, directly on

the south shore of the San Pablo Bay.

While not part of the Facility, it should be noted that the Selby Slag Site is located north and downgradient of the Rail Transfer Area, between the Union Pacific rail line and San Pablo Bay shoreline. (Figure 2) The Selby Slag Site is under the Department of Toxic Substances Control's regulatory oversight for remediation of contamination resulting from smelting operations for the extraction of lead, zinc and other metals by the American Refining and Smelter Company (ARASCO) from 1886 through 1970. This area is approximately sixty-six acres, relatively flat and, as part of the remedial effort, capped with asphalt.

3) **Facility Description**

The Main Terminal Area is approximately fifty acres and is composed of an office building, operations buildings, truck loading racks, two pipeline manifold areas, and the tank farm, containing twenty-five aboveground storage tanks (ASTs). The Main Terminal Area is used to store petroleum products and oxygenated liquids. It can receive and load products via marine vessel, common carrier pipeline, rail, and truck. Products presently or previously stored at the Main Terminal Area include: gasoline, diesel, jet fuel, alkylate, butane, MTBE, transmix, light cycle oil, naphtha, and ethanol.

The Rail Transfer Area is approximately two acres and is primarily composed of three rail spurs connected to the southside of the east-west running Union Pacific Railroad mainline. Products presently or previously handled at the Rail Transfer Area include MTBE and ethanol.

The Marine Wharf Area is a relatively small area composed of a pier and ground-based operational equipment for transferring various petroleum products between marine vessels and the Main Terminal Area via subsurface pipelines.

4) **Facility Operation and Background**

In 1981, Wickland Oil Company (Wickland) began construction of the Facility and in 1982, started operations as a bulk storage terminal. Construction of the tank farm within the Main Terminal Area consisted of two phases. Phase 1 lasted from 1981 to 1985; during this phase, eleven single bottom and one double bottom ASTs were constructed in the northern half of the Main Terminal Area. Phase 2 lasted from 1991 to 1992; during this phase, thirteen additional double bottom ASTs were constructed in the southern half of the Main Terminal Area. On October 31, 1998, Wickland sold the Main Terminal Area to Shore Terminals, LLC (Shore) but Wickland retained ownership of their property north of San Pablo Avenue including their portion of the Rail Transfer Area. Under the terms of the purchase agreement, Wickland provided Shore with easements for operation of the pipelines, the Rail Transfer Area, and the Marine Wharf Area. Additionally at the time of sale, Wickland's lease for the portion of the Rail Transfer Area owned by Union Pacific Railroad was reassigned to Shore and Wickland's lease to operate the Marine Wharf with California State Lands Commission was also reassigned to Shore.

On July 7, 2000, Wickland sold their property north of the Main Terminal Area to CS

Lands, formerly a subsidiary of Tosco Corporation. In September 2001, CS Lands came under the ownership of Phillips Petroleum Co. (Phillips) when Phillips purchased Tosco Corp. When Phillips and Conoco Inc. merged in September 2002 forming ConocoPhillips, CS Lands came under ConocoPhillips' ownership.

In January 2001, Shore Terminals LLC became a wholly owned subsidiary of Kaneb Pipeline Operating Partnership, L.P. located in Richardson, Texas.

Currently, Shore owns and operates the Main Terminal Area. Shore operates the Rail Transfer Area through a lease with Union Pacific Railroad and easements agreements with ConocoPhillips. Shore operates the Marine Wharf Area through a lease agreement with California State Lands Commission and pipeline easement agreements with Union Pacific Railroad and ConocoPhillips.

5) **Downgradient Properties Impacted by Main Terminal Area Operations**
Groundwater contaminated by petroleum hydrocarbon and MTBE discharges at the Main Terminal Area has migrated downgradient in a northwesterly direction under San Pablo Avenue and onto properties north of San Pablo Avenue identified in this Order as the John Swett Unified School District Parcel and the ConocoPhillips Parcel. (Figure 2)

   a. **The John Swett Unified School District Parcel**: The John Swett Unified School District Parcel is approximately one and a half acres and is bounded to the southeast by San Pablo Avenue and on all other sides by the ConocoPhillips Parcel. The John Swett School District Parcel houses the school district's administration building, which is the only building existing between the Main Terminal Area and San Pablo Bay.

   b. **The ConocoPhillips Parcel:** The ConocoPhillips Parcel is approximately thirty-four acres and is bounded to the southeast by the John Swett School District Parcel, to the northwest by the Union Pacific Railroad, to the southwest by the ConocoPhillips refinery, and to the northeast by open-space. Except for the Rail Transfer Area, located just south of the Union Pacific Railroad, the ConocoPhillips property is currently undeveloped.

6) **Named Dischargers**
The Shore Selby Terminal Facility, as defined in this Order, consists of three areas: the Main Terminal Area, the Rail Transfer Area, and Marine Wharf Area. Petroleum hydrocarbon and MTBE pollution has occurred at the Main Terminal Area and has migrated from the Main Terminal Area onto downgradient properties identified in this Order as the John Swett Unified School District Parcel, and the ConocoPhillips Parcel. MTBE has been detected in soil and groundwater beneath the Rail Transfer Area.

Naming of dischargers is based on present or past ownership and/or operation of the Facility areas during periods when pollution has occurred and is discussed below.

The responsible dischargers for each area and impacted offsite property are identified below with reference to Tasks required under this order:

a. **Dischargers for the Main Terminal Area (Shore and Wickland - Task 1)**
    i. Shore Terminals LLC (Shore) is named as a Discharger because Shore is the current owner and operator of the Main Terminal Area and owned and operated the Main Terminal during times of known petroleum and MTBE discharges at the Main Terminal Area. (See Finding 10)

    ii. Wickland Oil Company (Wickland) is named as a Discharger because Wickland was the former owner and operator of the Main Terminal during times of known petroleum and MTBE discharges at the Main Terminal Area. (See Finding 9)

b. **Named Dischargers for the John Swett Unified School District Parcel (Shore and Wickland - Task 2)**
    i. Shore is named as a Discharger because Shore is the current owner and operator of the Main Terminal Area and owned and operated the Main Terminal Area during times of known petroleum and MTBE discharges at the Main Terminal that have migrated downgradient onto the John Swett Unified School District Parcel. (See Finding 13)

    ii. Wickland is named as a Discharger of MTBE because Wickland was the former owner and operator of the Main Terminal during times of known MTBE discharges at the Main Terminal Area that have migrated downgradient onto the John Swett Unified School District Parcel. (See Finding 13)

c. **Named Dischargers for the ConocoPhillips Parcel (Shore and Wickland - Task 2)**
    i. Shore is named as a Discharger because Shore is the current owner and operator of the Main Terminal Area and owned and operated the Main Terminal Area during times of known petroleum and MTBE discharges at the Main Terminal Area that have migrated onto the ConocoPhillips Parcel. (See Finding 13)

    ii. Wickland is named as a Discharger of MTBE because Wickland was the former owner and operator of the Main Terminal during times of known MTBE discharges at the Main Terminal Area that migrated to the northern property boundary and beyond onto the ConocoPhillips Parcel. (See Finding 13)

d. **Named Dischargers for the Rail Transfer Area (Shore and Wickland - Task 3)**
    i. Shore is named as a Discharger because Shore is the current operator of the Rail Transfer Area; conducted MTBE handling and rail transfer operations at the Rail Transfer Area from November 1, 1998, until the

present; and was the Rail Transfer Area operator when MTBE was first sampled and detected in soil and groundwater there in September 2000. (See Findings 14 and 16))

ii. Wickland is named as a Discharger because Wickland was a past owner/operator of the Rail Transfer Area; conducted MTBE handling and rail transfer operations at the Rail Transfer Area from 1990 until October 31, 1998; and continued to own the Rail Transfer Area from November 1, 1998, until July 7, 2000, while Shore conducted MTBE rail transfer operations. (See Findings 14 and 16)

7) **Future Modification of Order**
If additional information indicating that other parties caused or permitted any waste to be discharged on the Facility where it entered or could have entered waters of the State, the Water Board may consider modifying the dischargers named and/or the tasks identified this order. Furthermore, if future information demonstrates that a discharger is responsible for contaminants not identified in this Order, the Executive Officer of the Water Board may consider modifying the contaminants for which a discharger is responsible.

8) **Petroleum Hydrocarbon and MTBE Contamination Sources**
Soil and groundwater at the Facility have been impacted by petroleum hydrocarbons and MTBE that emanate from leaking underground piping, ASTs, and surface discharges associated with the storage and dispensing of petroleum products. The exact locations and time of all of the discharges are not completely known.

9) **History of Discharges at the Main Terminal Area Under Wickland's Operation (1981 - October 31, 1998)**

a. In the mid-1980s, just after construction of AST 672 within the Main Terminal Area, an unknown quantity of MTBE enhanced gasoline was reported leaking at the ringwall/tank interface. The AST was taken out of service and the bottom repaired.

b. On December 31, 1991, Water Board staff performed a site inspection and observed numerous petroleum stains on the ground, and a leaking gasoline fuel line.

c. In 1992, an unknown quantity of MTBE was discharged due to a leaking flange in the pipe manifold area southeast of truck rack.

d. In 1995, an unknown quantity of diesel fuel was discharged in the central manifold area.

e. In 1995, an unknown quantity of gasoline believed to contain MTBE was discharged due to a faulty valve located at the bottom of Tank 672 near the ringwall/tank interface.

f. Quarterly Groundwater Monitoring results of groundwater samples collected in March 1998, detected MTBE in five of the ten monitoring wells. Analysis of groundwater collected from the downgradient perimeter well MW-4 detected MTBE at a concentration of 31 mg/L. The close proximity of MW-4 to the northern downgradient property boundary indicates the high probability of MTBE migrating off site at this time.

**10) History of Discharges at the Main Terminal Area Under Shore's Operation (October 31, 1998 - Present)**

a. On May 22, 2000, surface water samples collected from the stormwater system downgradient of the Main Terminal Area contained MTBE concentrations ranging from 0.42 mg/L just north of San Pablo Avenue to the 0.62 mg/L near the Rail Transfer Area.

b. On May 11, 2001, Shore notified the Water Board staff that 200 barrels (8,400 gallons) of reformate (Powerformer) was discharged during the filling of Tank 20109.

c. On July 10, 2001, unspecified separate-phase petroleum hydrocarbons were observed in a storm water inlet near the northwest corner of the Rail Transfer Area, downgradient of the Main Terminal Area.

d. On July 16, 2001, the pathway of the petroleum hydrocarbons entering the storm system was identified utilizing a video inspection of the box culverts within the storm water system beneath San Pablo Avenue. The video identified separate-phase petroleum hydrocarbons entering the storm water system through cracks in the box culverts.

e. On July 30, 2001, during on-site emergency response actions to address the observed petroleum hydrocarbons in the storm water system, petroleum hydrocarbons were observed in soil at the base of the secondary containment berm in an area where transfer pipes pass through it. Excavation of the berm revealed leaks in the transfer pipe, P2.

   Shore characterized the discharged as a mixture of petroleum products based on the various products transfer through the P2 pipe over a length of time as opposed to a one-time failure releasing one specific product. Reported estimations of the volume discharged for the time period from July 12, 2001, to July 30, 2001, ranged from about 1,800 to 32,000 gallons; the actual quantity discharged is not certain.

**11) Investigations at the Main Terminal Area**

a. In 1993, Wickland installed ten groundwater monitoring wells and began quarterly groundwater monitoring for total petroleum hydrocarbon as gasoline (TPH-g) and diesel (TPH-d), and benzene, toluene, ethylbenzene, and xylenes (BTEX). Groundwater Monitoring Results from 1993 to 1997 show only sporadic low detections of TPH and BTEX,

b. In July 1995, Wickland collected ten grab groundwater samples from temporary soil borings in the northern portion of the Main Terminal Area for laboratory analysis. The analysis detected concentrations: of total petroleum hydrocarbons as gasoline ranging from 7 mg/L to 150 mg/L; MTBE ranging from 7.4 mg/L to 370 mg/L; and benzene ranging from 0.075 mg/L to 2.6 mg/L.

c. In March 1998, Wickland began analyzing groundwater for MTBE. Five of the ten groundwater monitoring wells had MTBE detects with the highest concentration of 31 mg/L in the northwest perimeter well MW-4. After the purchase of the Main Terminal Area by Shore on October 31, 1998, Shore and Wickland jointly investigated the extent of MTBE both at and downgradient of the Main Terminal Area.

   During the joint MTBE investigation, nine soil borings were performed in the Main Terminal Area and twelve soil borings were performed on the downgradient properties. The results did not identify the MTBE source area but did characterize the MTBE plume in groundwater as extending from the Main Terminal Area, onto the John Swett Parcel at a concentrations of 340 mg/L just north of San Pablo Avenue, decreasing to a concentration of 45 mg/L at the property boundary between the John Swett Parcel and the ConocoPhillips Parcel. Lower MTBE concentrations were detected as far as 600 feet downgradient along side the subsurface utility corridor, which is likely to be a preferential pathway for MTBE migration.

d. On July 30, 2001, the P2 pipeline discharge was identified and Shore refocused their investigation onto petroleum hydrocarbons. Between July and December 2001, Shore performed 92 soil borings from the northern Main Terminal Area to the Rail Transfer Area to identify the extent of the petroleum hydrocarbons. Shore excavated five exploratory trenches (T-0 through T-4), three of which (T-0, T-2, T-4) had recovery wells installed for petroleum recovery. T-0, T-2, and T-3 are located in the Main Terminal Area and T-4 is located in the ConocoPhillips Parcel just northwest of the John Swett Parcel property boundary.

   Also, between July and December 2001, Shore monitored piezometers, installed earlier by Wickland within the backfill of the storm water line, for petroleum hydrocarbons but none were detected. Shore also installed five off-site monitoring wells MW-11 through MW-15 and four piezometers on or adjacent to the John Swett Parcel. Shore collected surface water samples within the storm water line from the southeastern end of the Main Terminal to San Pablo Bay.

   From January 2002 to August 2003, Shore continued to focus on petroleum hydrocarbons. Shore installed five shallow groundwater monitoring wells, one deeper monitoring well, and one extraction well. Shore also performed twelve cone penetration test borings, three soil borings, and aquifer tests at the

extraction well and MW-4. Shore also collected monthly surface water samples from the storm drain inlet locations.

12) **Extent of Contamination in the Main Terminal Area**
The northern portion of the Main Terminal Area contains a MTBE plume and a petroleum hydrocarbon plume. Data from the Forth Quarter 2003 Groundwater Monitoring Report show a maximum separate-phase petroleum hydrocarbon thickness of 1.1 ft in recovery well W-13 near the P2 pipeline discharge. A comparison of data collected in July 2001, at the time of the P2 discharge and data from Fourth Quarter 2003, shows a significant reduction in overall mass and size of the separate phase plume for the Main Terminal Area.

13) **Extent of Contamination Downgradient of the Main Terminal Area – ConocoPhillips Parcel and John Swett Parcel**
Separate-phase petroleum hydrocarbons have been detected in soil borings located downgradient from the Main Terminal Area on the John Swett Parcel and the ConocoPhillips Parcel.

The MTBE plume in groundwater extends from the Main Terminal Area, onto the John Swett Parcel at concentrations decreasing from 340 mg/L just along the north side of San Pablo Avenue to 45 mg/L further downgradient at the northern property boundary of the John Swett Parcel and the ConocoPhillips Parcel. MTBE has been detected over 600 feet further downgradient along the subsurface utility corridor.

14) **History of Discharges at the Rail Transfer Area**
No MTBE releases have been reported at the Rail Transfer Area. There have been only two MTBE operators at the Rail Transfer Area, Wickland and then Shore. Wickland continued to own the property for several years after Shore assumed operations at the site. In September 2000, MTBE was detected in soil and groundwater as the result of a USEPA directive for MTBE investigation. The results of the investigation demonstrate that MTBE impacts have occurred at the Rail Transfer Area. Both Wickland and Shore had similar MTBE handling and rail transfer operations in this area. These operations are likely to have caused MTBE releases.

15) **Investigations at the Rail Transfer Area**

a. In September 2000, Shore collected soil and groundwater samples along the downgradient northwest boundary of the Rail Transfer Area. The highest MTBE soil concentration of 2,500 mg/kg was detected in a surface soil sample (SS-1). MTBE was also detected in soil samples collected at 3.0 ft below ground surface (bgs) at 4.2 kg/mg and at 3.5 feet bgs at 5.8 mg/kg. Groundwater samples collected in this area had MTBE concentrations of 43 mg/L and 6 mg/L.

b. Also in September 2000, Wickland/CS Land trenched an exploration pit to characterize the potential of MTBE migration within groundwater preferential pathways associated with the pipelines between San Pablo Avenue and San Pablo Bay. The exploration pit was located just outside the southwest

boundary the Rail Transfer Area, upgradient from the locations sampled by Shore, discussed above. MTBE was not detected in any soil samples collected and was only detected in one of two groundwater samples at a concentration of 0.17 mg/L.

c. In March and September 2001, Shore performed nine hand augers to delineate the extent of MTBE associated with the elevated surface soil sample. Results based on this investigation identified the soil impacted by MTBE as being limited to an area approximately 50 ft long by 10 ft wide and to a depth of 1 foot.

16) **Extent of MTBE Contamination in the Rail Transfer Area**

The extent of MTBE contamination in soil has been currently detected at varying concentrations across the rail transfer area from surface to 5 feet below grade. MTBE currently detected in groundwater within the Rail Transfer Area is primarily located in the northwestern half of the area, near the downgradient northwest boundary adjacent to the railroad spurs. The MTBE pollution is believed to be the result of discharges that occurred during the unloading of the rail tank cars. Soil samples collected in 2000 and 2001 indicate spotty surface contamination with concentrations ranging from nondetect (<0.1 mg/kg) to 2,500 mg/kg.

MTBE concentrations in groundwater samples collected along the northern property boundary ranged from 6.0 mg/L to 43 mg/L. (The California Department of Health Services Primary Maximum Contaminant Level for MTBE is 0.013 mg/L.) These MTBE concentrations detected in groundwater along the northern downgradient property boundary warrant further investigation to evaluate the extent of off-site migration of MTBE toward San Pablo Bay, including the Selby Slag Site.

17) **USEPA Regulatory Action**

a. On May 8, 2000, the United States Environmental Protection Agency (USEPA) issued a Notice of Federal Interest (NOFI) to Shore and Wickland Oil to address the extent of MTBE concentrations in groundwater impacting storm drains downgradient of the Main Terminal Area, the Rail Transfer Area, and the former Wickland property, identified in this Order as the ConocoPhillips Parcel.

b. On December 19, 2001, pursuant to Sections of the Clean Water Act and the Resource Conservation and Recovery Act, USEPA issued Order No. OPA-9-2002-0003 requiring Shore to investigate and remove petroleum contamination from their facility, which had been observed in the storm drain.

c. On September 30, 2003, USEPA issued a subsequent Order No. 70003-9-2003-0001, requiring Shore to immediate remediation of the leading edge of the petroleum plume at the area north of the John Swett School District Parcel.

18) **Water Board Regulatory Action**

On October 5, 2001, the Water Board issued a General NPDES Permit Order No. 01-

100 to Shore for the discharge of treated groundwater to the stormwater line discharging into San Pablo Bay.

19) **Geological Setting**

The Main Terminal Area and the Rail Transfer Area are located in a narrow, northwest trending valley. Draining from south to north, the elevation of the valley floor gradually drops from an elevation of 60 ft. Mean Sea Level (MSL) at the southern boundary of the property to approximately 30 ft. MSL at the northern boundary, 2,300 ft. away. The cross section of the valley at both the southern and northern boundaries is characterized by an approximately 600 ft. wide flat valley floor with the eastern and western ridges rising up sharply approximately 300 ft. within 400 ft. from the toe of their respective slope.

The slopes and ridges are composed of thinly bedded, jointed, tan sandstone bedrock with a thin veneer of topsoil. An outcrop located near the southern portion of the site indicates the joints strike N3°E and N25°W dipping 52°W and 23°E respectively. Geological borings of the valley floor to depths of 60 ft. bgs did not encounter the sandstone bedrock but logged unconsolidated alluvium, primarily comprised of fine-grained silt and clay with some discontinuous sand stringers.

Approximately 2,000 ft. to the north of the Main Terminal Area lies the south shore of the San Pablo Bay. Going from the Main Terminal Area towards the Rail Transfer Area, the flat valley floor broadens and continues to gradually decrease in elevation. Borings and trenching in this area identified fine-grained unconsolidated alluvial sediments, similar to those deposited in the Main Terminal Area. Closer to San Pablo Bay, the alluvial materials are overlain by Bay Mud. The area north of the railroad to the present day shoreline was filled with slag waste generated by the ASARCO smelter. Known as the Selby Slag Site, this area has recently been capped with asphalt to mitigate continuing environmental concerns of metals leaching into groundwater and entering bay waters.

20) **Subsurface Utilities**

Subsurface utilities in the area north of the Main Terminal Area and the Rail Transfer Area include storm water lines, sanitary sewer lines, water supply lines, electrical lines, an abandoned PG&E "hot-oil" line and multiple subsurface product pipelines interconnecting the Marine Wharf Area, the Rail Transfer Area and the Main Terminal Area. Each of these subsurface utilities may serve as either a source of groundwater contamination or a preferential pathway for its migration.

21) **Surface Water**

The Terminal is located in the lower reach of the Canada Del Cierbo watershed. The approximately 1,200-acre watershed drains from south to north at the south shore of the mouth of San Pablo Bay, approximately one-third mile north of the Main Terminal. The watershed is bisected northeast/southwest by Interstate 80. Surface water flowing from the undeveloped open land of the southern watershed is piped under I-80 and then conveyed continuously underground to San Pablo Bay.

Surface water has been impacted by separate phase and dissolved phase petroleum hydrocarbons, and MTBE primarily through the infiltration of contaminated groundwater into the stormwater system culvert boxes beneath in San Pablo Avenue.

22) **Groundwater Characterization**

As of July 2003, 15 groundwater monitoring wells, 2 recovery wells, and 1 recovery trench piezometer are part of the Terminal's groundwater monitoring program. The water table ranges from approximately 7 to 17 ft below ground surface and generally mimics the surface topography in its gradual downward slope from the south to the north. The groundwater gradient based on April 22, 2003, data is 0.0145 ft/ft to the north-northwest.

No groundwater supply wells have been identified within a one-mile radius of the Terminal.

23) **Basin Plan**

The Water Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on June 21, 1995. This updated and consolidated plan represents the Water Board's master water quality control planning document. The revised Basin Plan was approved by the State Water Resources Control Board and the Office of Administrative Law on July 20, 1995, and November 13, 1995, respectively. A summary of regulatory provisions is contained in 23 CCR 3912. The Basin Plan defines beneficial uses and water quality objectives for waters of the State, including surface water and groundwater.

24) **Beneficial Uses**

The existing and potential beneficial uses of San Pablo Bay and contiguous surface water bodies are:

- Contact water recreation;
- Non-contact water recreation;
- Preservation of rare and endangered species;
- Estuarine habitat;
- Fish migration;
- Fish spawning;
- Industrial service supply;
- Navigation;
- Commercial and sport fishing;
- Shellfish harvesting; and
- Wildlife habitat;

The existing and potential beneficial uses of the groundwater in the vicinity of the site include:

- Municipal and domestic supply;
- Industrial process;
- Industrial service supply;
- Agricultural supply; and

- Freshwater replenishment.

**25) Water Board Resolutions**

a. **State Water Resources Control Board Resolution No. 68-16:** State Water Resources Control Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California," applies to this discharge and requires attainment of background levels of water quality, or the highest level of water quality which is reasonable if background levels of water quality cannot be restored. Cleanup 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 exceedence of applicable water quality objectives. This Order and its requirements are consistent with Resolution No. 68-16.

b. **State Water Resources Control Board Resolution No. 88-63:** State Water Resources Control Board Resolution No. 88-63, "Sources of Drinking Water" defines all groundwater as a potential source of drinking water with limited exceptions for groundwater in areas containing high total dissolved solids (greater than 3,000 mg/L), groundwater in areas of low yield (less than 200 gallons per day), or groundwater in areas with high levels of background contamination. Some groundwater underlying and adjacent to the site may qualify as a potential source of drinking water, although there is not current use of the site's groundwater, nor any anticipated plans for its use.

c. **State Water Resources Control Board Resolution No. 92-49:** State Water Resources Control Board Resolution No. 92-49, "Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under California Water Code Section 13304," applies to this discharge. This Order and its requirements are consistent with the provisions of Resolution No. 92-49, as amended.

26) **Basis for California Water Code Section 13304 Order:** The Discharger(s) has 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 contamination or nuisance.

27) **Preliminary Cleanup Goals**

The Discharger(s) 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. For purposes of this subsection, the discharger shall consider groundwater a source of drinking

water.

b. Soil: Applicable screening levels as compiled in the Water Board's Environmental Screening Levels (ESLs) document or its equivalent. Soil ESLs are intended to address a full range of exposure pathways, including direct exposure, indoor air impacts, nuisance, and leaching to groundwater.

28) **Cost Recovery**
Pursuant to California Water Code Section 13304, the Discharger(s) are hereby notified that the Water Board is entitled to, and may seek reimbursement for all reasonable costs actually incurred by the Water 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.

29) **California Environmental Quality Act (CEQA)**
This action is an order to enforce the laws and regulations administered by the Water Board. As such, this action is categorically exempt from the provisions of the California Environmental Quality Act pursuant to Section 15321 of the Resources Agency Guidelines.

30) **Notification**
The Water Board has notified the Discharger(s) and all interested agencies and persons of its intent under California Water Code Section 13304 to prescribe site cleanup requirements for the discharge, and has provided them with an opportunity to submit their written comments.

31) **Public Hearing**
The Water Board, at a public meeting, heard and considered all comments pertaining to this discharge.

**IT IS HEREBY ORDERED,** pursuant to Section 13304 of the California Water Code, that the Discharger(s) (or its agents, successors, or assigns) shall cleanup and abate the effects described in the above findings as follows:

PROHIBITIONS

1) The discharge of wastes or hazardous substances in a manner that 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 surface or subsurface transport to waters of the State is prohibited.

3) As required by State Water Resources Control Board General Permit No. CAS000001 for the Discharge of Storm Water Associated with Industrial Activities, the discharge of contaminant-impacted stormwater from the site, including sediment, is prohibited.

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

5) 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).

TASKS

1) **TASKS TO ADDRESS DISCHARGES AT THE MAIN TERMINAL AREA**
Applies to Shore and Wickland for both petroleum hydrocarbons and MTBE.

a) **SURFACE WATER SAMPLING AND ANALYSIS PLAN (SWSAP)**
COMPLIANCE DATE: September 1, 2004

Dischargers shall prepare a Surface Water Sampling and Analysis Plan acceptable to the Executive Officer that shall include, at a minimum:

(1) A map showing the storm drain system, relined sections, and groundwater plumes;
(2) A map showing proposed storm drain sample locations. A minimum of three sample locations shall be proposed: one upgradient at the southeast end of the Main Terminal Area, one near the northwest end of the Main Terminal Area, and one at the San Pablo Bay outfall;
(3) A sampling schedule for the storm drain system to monitor both monthly flows and storm event flows;
(4) Analysis of samples shall include constituents of concern as listed on Table 1 in the Self-Monitoring Program;
(5) Analytical results shall be reported as part of the Quarterly Reporting identified in the Self-Monitoring Program.

b) **INTERIM CORRECTIVE ACTION PLAN (ICAP)**
COMPLIANCE DATE: November 1, 2004

Dischargers shall prepare an Interim Corrective Action Plan (ICAP) and schedule, acceptable to the Executive Officer, that addresses the following immediate concerns:

(1) Timely implementation of a separate-phase petroleum hydrocarbon remediation system at the Main Terminal Area;
(2) Timely stabilization of all dissolved-phase petroleum hydrocarbons and MTBE plumes within the Main Terminal Area to eliminate offsite migration;

c) **IMPLEMENTATION OF THE INTERIM CORRECTIVE ACTION PLAN**
COMPLIANCE DATE: 30 Days After ICAP Approval

Dischargers shall immediately implement the ICAP upon approval by the Executive Officer. Any additional investigative work can be completed

concurrently, but shall not delay the construction and implementation of the remediation system.

d) **SITE CHARACTERIZATION WORKPLAN**
COMPLIANCE DATE: December 1, 2004

Dischargers shall submit a schedule and workplan, acceptable to the Executive Officer, for any necessary additional work to complete the full definition of the horizontal and vertical extent of MTBE and both separate-phase and dissolved-phase contamination in soil and groundwater at the Main Terminal Area. The workplan shall also propose any additional work necessary to identify the exact location of all sources of contamination and preferential groundwater pathways. Specifically, the plan shall also include an assessment of all underground piping with the objective of locating all known leaks and repairing, replacing, and/or day lighting all piping identified as sources in the assessment.

e) **SITE CHARACTERIZATION REPORT**
COMPLIANCE DATE: 60 Days After Completion of Task 1c

Dischargers shall submit a report, acceptable to the Executive Officer, that provides the results of investigations proposed in the Site Characterization Work Plan prepared in accordance with Task 1c. The report shall include boring logs, laboratory analyses, updated cross-sections, isoconcentration maps using laboratory analysis data, a site conceptual model, and conclusions and recommendations for further site characterization work, if necessary.

f) **CORRECTIVE ACTION PLAN**
COMPLIANCE DATE: 60 Days After Completion of Site Characterization Report

Dischargers shall submit a Final Corrective Action Plan (CAP) and schedule acceptable to the Executive Officer for the remediation of separate-phase and dissolved-phase petroleum hydrocarbons and MTBE contaminated soil and groundwater at the Main Terminal Area. The CAP shall include proposed modifications to the interim CAP (Task 1a) and shall incorporate the information generated during the site characterization activities into a site-wide CAP.

2) **TASKS TO ADDRESS DISCHARGES MIGRATING DOWNGRADIENT FROM THE MAIN TERMINAL AREA – CONOCO PHILLIPS AND JOHN SWETT PARCELS**
Applies to Shore (MTBE and petroleum hydrocarbons) and Wickland (MTBE only)

a) **INTERIM CORRECTIVE ACTION WORKPLAN**
COMPLIANCE DATE: 90 Days After Adoption of Site Cleanup Requirements.

Dischargers shall prepare an Interim Corrective Action Plan (ICAP) and schedule

acceptable to the Executive Officer at address the following immediate concerns:

(1) Immediate removal of separate-phase petroleum hydrocarbons on the downgradient parcels northwest of the Main Terminal Area, i.e., the John Swett School District Parcel and the ConocoPhillips Parcel;
(2) Timely stabilization of all dissolved-phase petroleum hydrocarbons and MTBE plumes on the downgradient parcels northwest of the Main Terminal Area, i.e., the John Swett School District Parcel and the ConocoPhillips Parcel property;

b) **IMPLEMENTATION OF THE INTERIM CORRECTIVE ACTION WORKPLAN**
COMPLIANCE DATE: 30 Days After ICAP Approval

The ICAP shall be implemented upon approval by the Executive Officer. Any additional investigative work can be completed concurrently, but shall not delay the construction and implementation of the remediation system.

c) **SITE CHARACTERIZATION WORKPLAN**
COMPLIANCE DATE: January 15, 2005

Dischargers shall submit a workplan, acceptable to the Executive Officer, that presents proposed additional investigative work that is necessary to complete the full definition of the horizontal and vertical extent of MTBE and both separate-phase and dissolved-phase contamination in soil and groundwater downgradient of the Main Terminal Area. The workplan shall also propose any additional work necessary to identify the exact location of all sources of contamination and preferential groundwater pathways. Specifically, the plan shall also include an assessment of all underground piping with the objective of locating all current or historical leaks, and repairing, replacing, or day lighting all piping identified as potential sources in the assessment.

d) **SITE CHARACTERIZATION REPORT**
COMPLIANCE DATE: 60 Days After Completion of Task 2c

Dischargers shall submit a report, acceptable to the Executive Officer, that provides the results of investigations proposed in the Site Characterization Work Plan prepared in accordance with Task 2c. The report shall include boring logs, laboratory analyses, updated cross-sections, isoconcentration maps using laboratory analysis data, a site conceptual model, and conclusions and recommendations for further site characterization work, if necessary.

e) **CORRECTIVE ACTION PLAN**
COMPLIANCE DATE: 60 Days After Completion of Site Characterization Report

Dischargers shall submit a Final Corrective Action Plan (CAP) and schedule acceptable to the Executive Officer for the removal of separate-phase

hydrocarbons and the remediation of petroleum and MTBE contaminated soil and groundwater downgradient of the Main Terminal Area. The CAP shall include proposed modifications to the interim CAP (Task 2a) and shall incorporate the information generated during the site characterization activities into a site-wide CAP.

3) **TASKS TO ADDRESS MTBE DISCHARGES AT THE RAIL TRANSFER AREA** Applies to Shore and Wickland.

a) **INTERIM CORRECTIVE ACTION (ICAP) WORKPLAN**
COMPLIANCE DATE: November 1, 2004

Dischargers shall prepare an ICAP and schedule acceptable to the Executive Officer that address the following immediate concerns:

(1) Removal of contaminated soils impacting groundwater and/or surface water;
(2) Development of preventative measures against future discharges;
(3) Characterization of nature and extent of MTBE plume both at and downgradient of the Rail Transfer Area, including the Selby Slag Site.

b) **IMPLEMENTATION OF THE INTERIM CORRECTIVE ACTION WORKPLAN**
COMPLIANCE DATE: 30 Days After ICAP approval

The ICAP shall be implemented upon approval by the Executive Officer. Any additional investigative work can be completed concurrently, but shall not delay the construction and implementation of the remediation system.

c) **SITE CHARACTERIZATION WORKPLAN**
COMPLIANCE DATE: January 15, 2005

Dischargers shall submit a schedule and workplan, acceptable to the Executive Officer, for any necessary additional work that is necessary to complete the full definition of the horizontal and vertical extent of MTBE contamination in soil and groundwater at and downgradient of the Rail Transfer Area. The workplan shall also propose any additional work necessary to identify the exact location of all sources of contamination. Specifically, the plan shall also include an assessment of all underground piping with the objective of locating all current or historical leaks, and repairing, replacing, or day lighting all piping identified as potential sources in the assessment.

d) **SITE CHARACTERIZATION REPORT**
COMPLIANCE DATE: 60 Days After Completion of Tasks

Dischargers shall submit a report, acceptable to the Executive Officer, that provides the results of investigations proposed in the Site Characterization Work Plan prepared in accordance with Task 3c. The report shall include boring logs,

laboratory analyses, updated cross-sections, isoconcentration maps showing laboratory analysis data, a site conceptual model, and conclusions and recommendations for further site characterization work, if necessary.

e) **CORRECTIVE ACTION PLAN**
COMPLIANCE DATE: 60 Days After Completion of Site Characterization Report

Dischargers shall submit a Final Corrective Action Plan (CAP) and schedule acceptable to the Executive Officer remediation of MTBE contaminated soil and groundwater at and downgradient of the Rail Transfer Area. The CAP shall include proposed modifications to the interim CAP (Task 3a) and shall incorporate the information generated during the site characterization activities into a site-wide CAP.

PROVISIONS

1) Operation and Maintenance (O&M): The Dischargers (as applicable) 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.

2) 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 Water Board may consider revision to this Order.

3) Discharges: If any hazardous substance is discharged in or on any waters of the state, or discharged and deposited, or probably will be discharged in or on any waters of the state, the Discharger(s) shall:
   a) Report such discharge to the Office of Emergency Services at (800) 852-7550.
   b) File a written report with the Water Board within five working days that shall contain information relative to the following:
      (1) The nature of waste or pollutant;
      (2) The quantity involved and the duration of incident;
      (3) The cause of the spill;
      (4) The estimated size of the affected area;
      (5) The corrective measures that have been taken or planned,
      (6) A time schedule for the corrective measures;
      (7) The persons/agencies notified; and
      (8) A copy of the OES notification report.

4) Stormwater: The Discharger shall comply with the State's General Stormwater Permits for both industrial activities and construction activities (Order Numbers 97-03-DWQ and 99-08-DWQ, respectively).

5) Contractor/Consultant Qualifications: All technical documents shall be signed by and stamped with the seal of a California registered geologist, a California certified

engineering geologist or hydrogeologist, or a California registered civil engineer.

6) Lab Qualifications: All samples shall be analyzed by State-certified laboratories or laboratories accepted by the Water 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 Water Board review. This provision does not apply to analyses that can only reasonably be performed on-site (e.g. temperature).

7) Electronic Reporting: The Water Board requests all reports be submitted both as an electronic copy and as a paper copy. Effective January 1, 2003, the Water Board implemented plans to image all incoming correspondence into the system. Written correspondence received at the Water Board, including report cover letters will be imaged and stored in the same manner as our outgoing correspondence. Imaging documents over ten pages or with oversize drawings or tables or color is currently not within our capability. The Water Board therefore requests that you submit each report as one paper copy and one electronic copy on one labeled CD or diskette. The paper copy will be used by the case manager and then stored as long as the document is actively used.

   The electronic copy of the report should be submitted as one PDF file. It is preferred that reports be converted from their original format (e.g. Microsoft Word) rather than scanned except for signature pages and perjury statements which must be scanned and included. Each page in the PDF file should be rotated in the direction that facilitates reading on a computer. The electronic document will then be copied into the Water Board's electronic document management system, which will be the formal Water Board secured record for the site.

8) Document Distribution: Copies of all correspondence, technical reports, and other documents pertaining to compliance with this Order shall be provided to the Contra Costa County Health Department. The Executive Officer may modify this distribution list as needed.

9) Self-Monitoring Program: The Dischargers (as applicable) shall comply with the Self-Monitoring Program as attached to this Order and as may be amended by the Executive Officer.

10) Access to Site and Records: In accordance with California Water Code Section 13267, the Dischargers (as applicable) shall permit the Water Board or its authorized representative:

    a) Entry upon premises in which any contamination source exists, or may potentially exist, or in which any required records are kept, which are relevant to this Order;
    b) Entry upon premises to conduct periodic inspections;
    c) Access to copy any records required to be kept under the requirements of this Order;
    d) Inspection of any monitoring or remediation facilities installed in response to this Order; and

e) 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 (as applicable).

11) Cost Recovery: The Dischargers (as applicable) shall be liable, pursuant to California Water Code Section 13304 and Health and Safety Code Section 25270.9 to the Water Board for all reasonable costs actually incurred by the Water 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 (as applicable) over reimbursement amounts or methods used in that program shall be consistent with the dispute resolution procedures for that program.

12) Reporting of Changed Owner or Operator: The Dischargers (as applicable) shall file a report on any changes in site occupancy or ownership associated with the property described in this Order.

13) San Francisco Regional Water Quality Control Board Resolution No. 88-160: Water Board Resolution No. 88-160 allows discharges of extracted, treated groundwater from site cleanups to surface waters only if it has been demonstrated that neither reclamation nor discharge to the sanitary sewer is technically and economically feasible.

14) Periodic SCR Review: The Water Board will review this Order periodically and may revise it when necessary. The Dischargers (as applicable) may request revisions and upon review, the Executive Officer may recommend that the Water Board revise these requirements.

I, Bruce H. Wolfe, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on July 21, 2004.

Bruce H. Wolfe
Executive Officer

FAILURE TO COMPLY WITH THE REQUIREMENTS OF THIS ORDER MAY SUBJECT YOU TO ENFORCEMENT ACTION, INCLUDING BUT NOT LIMITED TO: IMPOSITION OF ADMINISTRATIVE CIVIL LIABILITY UNDER WATER CODE SECTIONS 13268 OR 13350, OR REFERRAL TO THE ATTORNEY GENERAL FOR INJUNCTIVE RELIEF OR CIVIL OR CRIMINAL LIABILITY

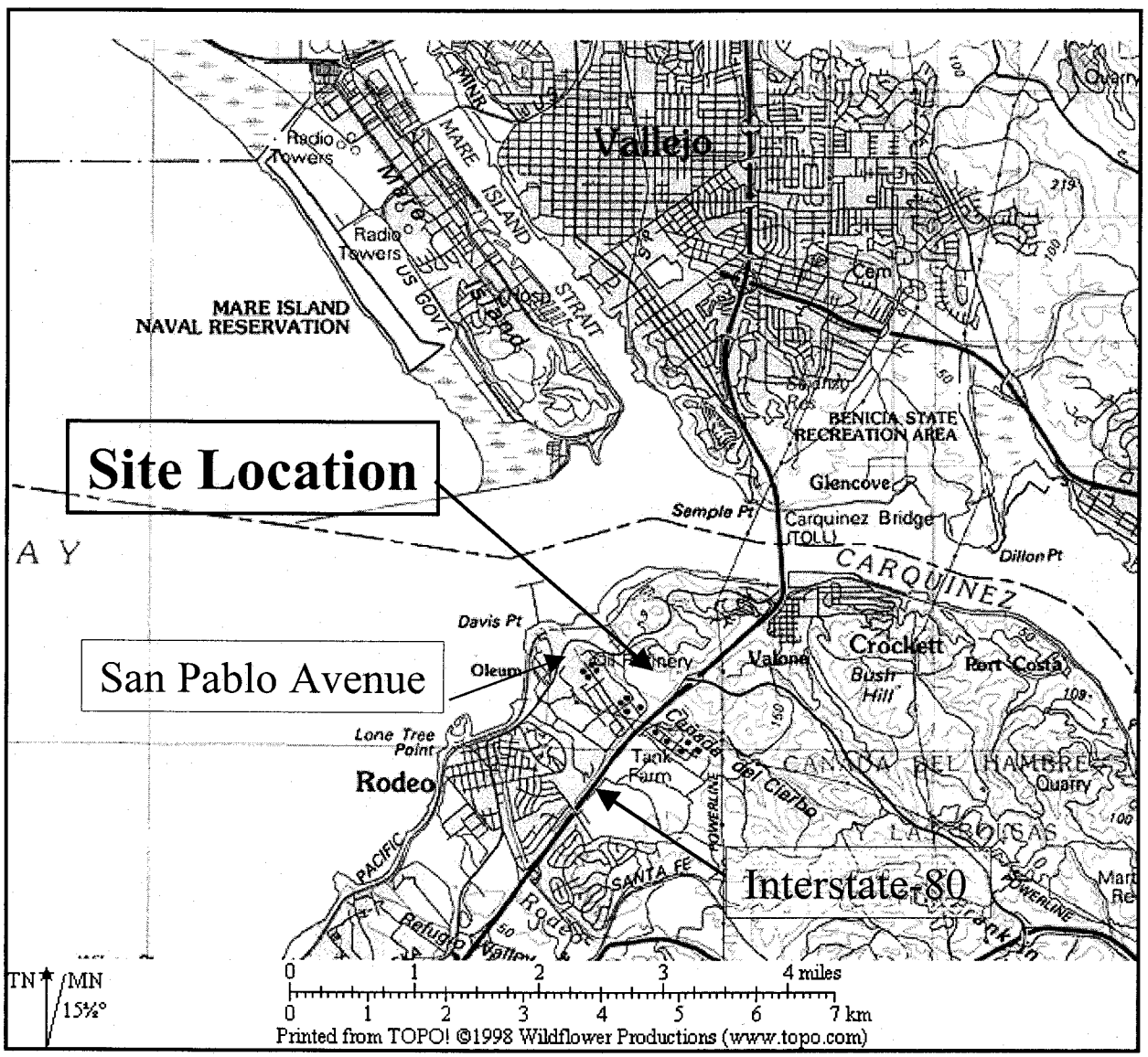


Figure 1, Shore Selby Terminal Facility, Site Location Map

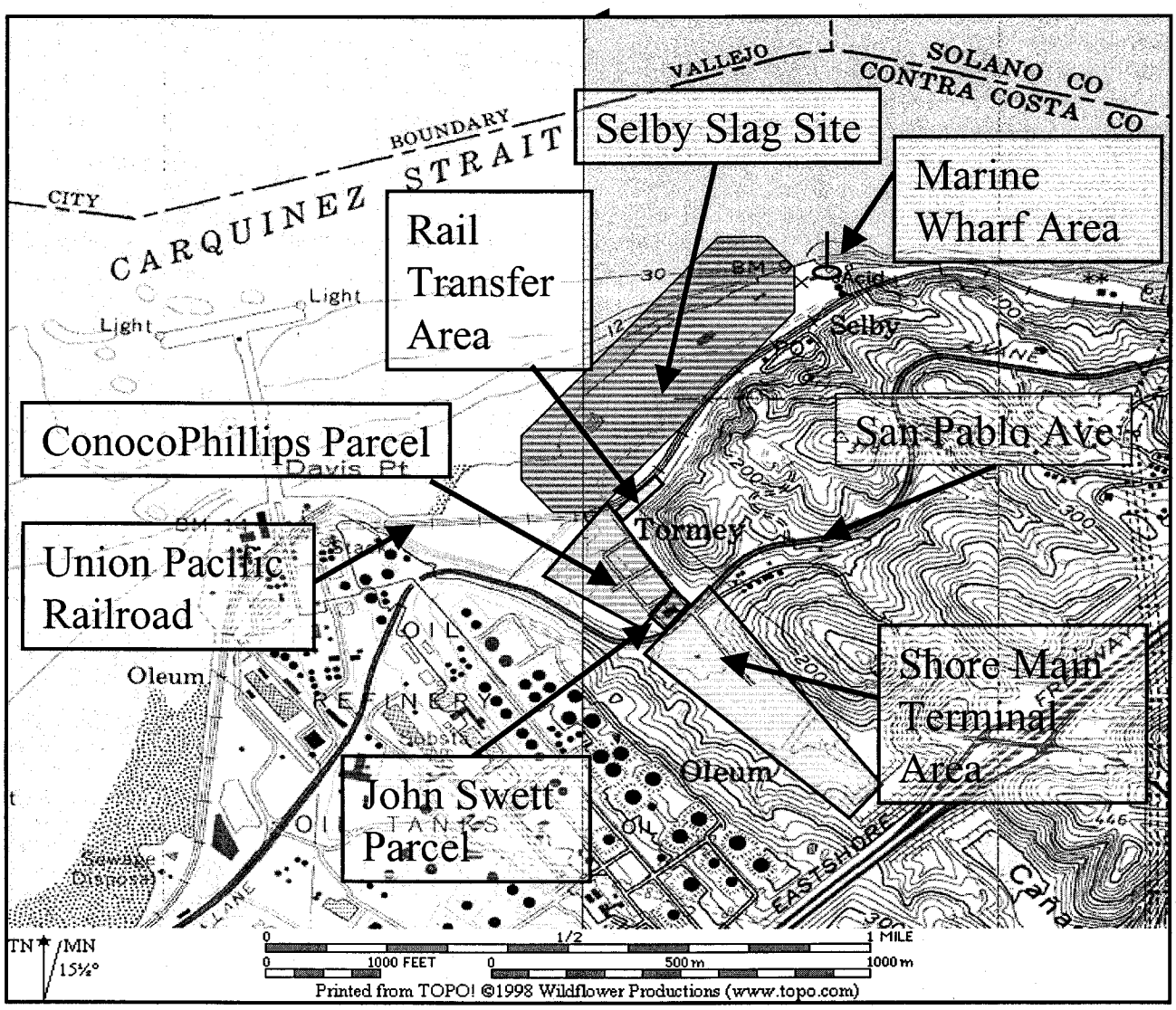


Figure 2, Site Parcel Map (Approximate Boundaries)

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM FOR:

**SHORE TERMINALS LLC**
**WICKLAND OIL COMPANY**

for the property located at:
**90 SAN PABLO AVENUE**
**CROCKETT, CALIFORNIA 94522**
**CONTRA COSTA COUNTY**

1. **Responsible Party Identification**: The following Self-Monitoring Plan is a template to be followed to monitor petroleum contamination for each area. The specific areas and dischargers are:
   - Main Terminal Area – Applies to both Shore and Wickland for MTBE and petroleum hydrocarbons.
   - John Swett School District Parcel - Applies to Shore for MTBE and petroleum hydrocarbons and to Wickland for MTBE only.
   - ConocoPhillips Parcel - Applies to Shore for MTBE and petroleum hydrocarbons and to Wickland for MTBE only.
   - Rail Transfer Area - Applies to both Shore and Wickland for MTBE only.

2. **Authority and Purpose**: The Water 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 Water Board Order No. **R2-2004-0064** (Site Cleanup requirements).

3. **Electronic Reporting:** The Water Board requests all reports be submitted both as an electronic copy and as a paper copy. Effective January 1, 2003, the Water Board implemented plans to image all incoming correspondence into the system. Written correspondence received at the Water Board, including report cover letters will be imaged and stored in the same manner as our outgoing correspondence. Imaging documents over ten pages or with oversize drawings or tables or color is currently not within our capability. The Water Board therefore requests that you submit each report as one paper copy and one electronic copy on one labeled CD or diskette. The paper copy will be used by the case manager and then stored as long as the document is actively used.

   The electronic copy of the report should be submitted as one PDF file. It is preferred that reports be converted from their original format (e.g. Microsoft Word) rather than scanned except for signature pages and perjury statements which must be scanned and included. Each page in the PDF file should be rotated in the direction that facilitates reading on a computer. The electronic document will then be copied into the Water

Board's electronic document management system, which will be the formal Water Board secured record for the site.

4. **Monitoring:** The dischargers shall collect and analyze representative groundwater samples and surface water samples within the storm drains according to the following schedule and for the constituents of concern on Table 1. Dischargers shall also measure and report groundwater elevations and separate-product thickness in all monitoring wells on a quarterly frequency.

Table 1

| Well No. | Frequency | TPH-gas[1] | TPH-diesel[2] | BTEX[3] | MTBE and Other Fuel Oxygenates[4] |
|---|---|---|---|---|---|
| MW-1 | Quarterly | X | X | X | X |
| MW-2 | Quarterly | X | X | X | X |
| MW-3 | Quarterly | X | X | X | X |
| MW-4 | Quarterly | X | X | X | X |
| MW-5 | Quarterly | X | X | X | X |
| MW-6 | Quarterly | X | X | X | X |
| MW-7 | Quarterly | X | X | X | X |
| MW-8 | Quarterly | X | X | X | X |
| MW-9 | Quarterly | X | X | X | X |
| MW-10 | Quarterly | X | X | X | X |
| MW-11 | Quarterly | X | X | X | X |
| MW-12 | Quarterly | X | X | X | X |
| MW-13 | Quarterly | X | X | X | X |
| MW-14 | Quarterly | X | X | X | X |
| MW-15 | Quarterly | X | X | X | X |
| MW-16 | Quarterly | X | X | X | X |
| MW-17 | Quarterly | X | X | X | X |
| MW-19 | Quarterly | X | X | X | X |
| MW-20 | Quarterly | X | X | X | X |
| MW-21 | Quarterly | X | X | X | X |
| RW-11 | Quarterly | X | X | X | X |
| RW-12 | Quarterly | X | X | X | X |
| W-13 | Quarterly | X | X | X | X |
| EX-1 | Quarterly | X | X | X | X |
| Storm Drains | Monthly/ Storm Event | X | X | X | X |

Notes: 1) EPA Method 5030 or equivalent
2) EPA Method 3510 or equivalent
3) EPA Method 8260 or equivalent
4) EPA Method 8260 or equivalent

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

5. **Quarterly Monitoring Reports**: The dischargers shall submit quarterly monitoring reports to the Water 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 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 discharger's 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 should 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 should 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. All previous 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.

   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. Surface Water Analysis: Surface water sampling data shall be presented in tabular form, and a sample location map shall be prepared for one or more key contaminants, as appropriate. The report shall indicate the analytical method used, detection limits obtained for each reported constituent, and a summary of QA/QC data. All previous surface water 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.

f. Status Report: The quarterly report shall summarize all relevant work completed during the reporting period (e.g. site investigation, interim remedial measures) and work planned for the upcoming quarter.

6. **Violation Reports**: If the Dischargers violate requirements in the Site Cleanup Requirements, then the dischargers shall notify the Water Board office by telephone as soon as practicable once the dischargers have knowledge of the violation. The Water Board may, depending on violation severity, require the dischargers to submit a separate technical report on the violation within five working days of telephone notification.

7. **Other Reports**: The Dischargers shall notify the Water 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.

8. **Record Keeping**: The Dischargers or their agent 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 Water Board upon request.

9. **SMP Revisions**: Revisions to the Self-Monitoring Program may be ordered by the Executive Officer, either on his 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 Water Board on July 21, 2004.

Bruce H. Wolfe
Executive Officer