

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

TENTATIVE ORDER

UPDATED SITE CLEANUP REQUIREMENTS and RESCISSION OF ORDER No. 92-082

for:

SFPP, L.P., an operating partnership of Kinder Morgan Energy Partners, L.P.

For the property located at:

1550 SOLANO WAY
CONCORD
CONTRA COSTA COUNTY

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

1. **Site Location:** The subject property (hereinafter the Site) is located at 1550 Solano Way in Concord, just north of State Highway 4 and approximately 3.5 miles south of Suisun Bay. The Site is bordered by Solano Way to the east, by Walnut Creek Flood Control Channel to the west, by Imhoff Drive to the south, and by Tesoro Golden Eagle Refinery to the north (Figure 1- Vicinity Map). The adjacent properties are primarily commercial and industrial developments (Figure 2 - Aerial View of Site).
2. **Site Description:** The 25-acre Site is an active petroleum storage and pipeline distribution facility (hereinafter Facility) that handles refined petroleum products including gasoline, jet fuel, and diesel fuel. The petroleum products are stored in 23 above-ground storage tanks (AGTs) ranging in size from 126,000 to 3,179,000 gallons. The distribution facility includes an onsite piping manifold that is capable of receiving and distributing petroleum from seven off site locations at one time. The control building, laboratory, pump house shop, and manager's office are located on the eastern and southwestern areas of the Site, while the AGTs are located on the northwestern, central, and southwestern portions of the Site (Figure 3 -Site Plan).
3. **Adjacent Sites:** The Tesoro Golden Eagle Refinery is located to the north and east of the Site. The refinery has an approximate daily throughput capacity of 145,000 barrels of petroleum crude oil, and produces gasoline, diesel fuels, as well as liquid petroleum gas, heating oil, jet fuel and petroleum coke. Active ongoing monitoring and remedial investigation activities at the refinery are overseen by the Regional Water Board. The contaminants of concern noted in the soil and groundwater beneath the refinery site include metals and petroleum hydrocarbons.

The U.S. Government Defense Fuel Support Point-Ozol Concord Pump Station is located within and on the western portion of the Site. This facility consists of one above-ground transmix storage tank with the associated above and below-grade piping and pumping equipment.

4. **Site Ownership and Discharger History:** From 1954 until 1989, the initial operator and previous owner of the Concord facility was Southern Pacific Pipeline Inc., which was wholly owned by Southern Pacific Transportation (SPT). In 1989, SPT sold Southern Pacific Pipeline Inc., which merged with Santa Fe Pacific Pipelines Inc., and the merged corporation was named Santa Fe Pacific Pipelines, Inc. In 1990, the name of Southern Pacific Pipeline Inc. was changed to SFPP, L.P.
5. **Named Discharger:** SFPP, L.P., an operating partnership of Kinder Morgan Energy Partners, L.P., is named as a discharger because it owned the property during or after the time of the activity that resulted in the discharge, had knowledge of the discharge or the activities that caused the discharge, and had the legal ability to prevent the discharge. If additional information is submitted indicating that other parties caused or permitted any waste to be discharged on the site where it entered or could have entered waters of the state, the Regional Water Board will consider adding those parties' names to this order.
6. **Regulatory Status:** In July 1992, the Regional Water Board adopted Site Cleanup Requirements Order No. 92-82, which required the investigation and remediation of onsite and potential offsite soil and groundwater contamination and required monitoring to demonstrate remediation performance.

The remedial actions implemented at the Site, as required by Order 92-82, have resulted in the reduction of onsite released free-product (see Figure 4). The remedial actions did not successfully address the off-site migration of the plume to the Walnut Creek Flood Control Channel wetlands and to the southern area beneath Imhoff Drive and immediately adjacent to and possibly beneath the IndCor Commercial Building located at 5650 Imhoff Drive (IndCor Property).

7. **Purpose of Order:** SFPP L.P. has discharged petroleum fuel hydrocarbons to soil and groundwater underlying the Facility and these contaminants have migrated to and impacted down gradient and offsite properties including the Contra Costa County Flood Control and Water Conservation District's property (Walnut Creek Flood Control Channel), to the west, and the IndCor Property, to the south. The petroleum fuel hydrocarbons have exceeded applicable San Francisco Bay Basin Water Quality Control Plan (Basin Plan) water quality objectives for groundwater, could potentially threaten surface water quality in the adjacent Walnut Creek Flood Control Channel, and may pose a soil vapor risk to the IndCor Property. The purpose of this Order is to require remediation of soil and groundwater contamination caused by releases from the Facility to a level that is protective of human health, safety, and the environment, and to ensure that the beneficial uses of water resources are maintained considering both current and reasonable future land and water uses.

This Order requires: 1) two investigation technical reports, 2) a risk assessment workplan and report, 3) a revised corrective action plan, 4) a corrective action implementation report, 5) three corrective action completion reports, 6) the optimization of the groundwater monitoring well network, and 7) a self-monitoring program to provide an ongoing assessment of groundwater and surface water conditions and impacts from potential new releases at the Facility.

8. **Geology:** The Site is underlain by three geologic units that include: younger alluvium of the Bay plain (clayey sands) from 0 to 50 feet below ground surface (ft bgs), the Montezuma Formation (Older alluvium) from 51 to 200 ft bgs, and finally Markley Formation bedrock. The clayey sands and Montezuma Formations are known to be water bearing.

9. **Hydrogeology:** Sediments underlying the Site vary from fine to coarse grained. The upper portion of the sediments consists of silts and clays to a depth varying from 14 ft bgs in the southwestern portion of the Site to 22 ft bgs in the northeastern portion of the Site. Sands and gravels occur as much thinner beds along the eastern and western portions of the Site. Where deeper wells have been installed, a similar pattern of sands and gravels layered with silts and clays have been observed.

Groundwater elevations at the Site vary from approximately 7 to 16 feet above mean sea level (or 30 to 39 ft bgs), depending largely on seasonal variations. The horizontal hydraulic gradient direction is toward the southwest and has historically been consistent. However, a groundwater high persists in the north-central portion of the Site resulting in an easterly and southerly component to the horizontal hydraulic gradient in that local area (e.g., radial flow away from topographic high)(See Figure 5).

10. **Hydrology:** The closest surface water body is Walnut Creek, which borders the western portion of the Site. Water within the creek generally flows northward towards Suisun Bay, located approximately 3.5 miles to the north of the Site. Water levels in the creek typically range from 5 to 11.5 feet above mean sea level.
11. **Storm Water Management:** Storm water at the Facility is collected within engineered and bermed secondary containment AGT storage areas and discharges directly from non-storage areas. Storm water which accumulates within secondary containment areas and which does not dissipate naturally, is released through manually controlled valves. Historically, these valves have been maintained in the closed position until after checking that there is no oil sheen present on the water. When draining the facility containment areas, storm water is conveyed by underground piping to a drainage ditch that discharges to a retention pond located on the Tesoro property just north of the SFPP Facility. Tesoro personnel operate the retention pond management activities. Drainage of storm water from other undiked and non-storage areas of the Facility has not been historically monitored or controlled. As of September 2013, the Discharger has applied for coverage under the State Water Board General Industrial Stormwater Permit that will require storm water discharge monitoring and best management practices.
12. **Site History and Environmental Impacts:** The Facility was originally constructed in the 1950s and has since been expanded several times. Throughout the history of the Site, there have been a number of reported spills at the Facility. Causes of the reported spills described below include pipeline ruptures, tank overflows, and leaks. Remedial excavations were sometimes performed. However, to ensure the structural integrity of the storage tanks, residual contamination was left in place under tanks CC-4, CC-6, CC-8, CC-10, and CC-16 and free product remains in the manifold area. The releases described below have not received regulatory closure from this agency, to date.

a) **1950 – 1984: Approximately 12,760 Gallons Spilled**

On July 23, 1975, Southern Pacific Pipe Lines (SPPL), the former operator of the Facility, was notified by the Contra Costa County Office of Emergency Services of the presence of petroleum product in the Walnut Creek Flood Control channel. Over three years, 101 soil borings and monitoring wells installed at the Site revealed high concentrations of dissolved petroleum hydrocarbons and free product in the northeastern area.

b) **1985 - 1991: Approximately 56,490 Gallons Spilled**

In July 1985 free product was discovered in the excavation of a Pacific Gas & Electric pipeline located in the northeastern portion of the facility. Seven monitoring wells installed in the northeastern portion contained free product up to 3.07 feet thick.

On January 24, 1988, a release of about 50 gallons of diesel fuel occurred when an overflow level switch failed in a recovery tank. The leak was contained and there was no evidence fuel discharged to Walnut Creek.

On February 11, 1988, three leaks were found in a pipeline located in the northeastern area of the Site. Between February 21 and 25, 1988, approximately 1,600 gallons of product were recovered during remedial activities.

On December 14, 1988, a release of diesel occurred from a pin-hole located in a seam weld of Tank CC-12. The tank was drained and the pooled diesel was removed using a vacuum truck. The impacted soil under the tank was excavated and disposed at an appropriate facility.

On July 14, 1991, a release of approximately 42,420 gallons of diesel occurred when Tank CC-13 was overfilled. A large area of soil was excavated in the vicinity of tanks CC-10, CC-11, CC-13, and CC-14. Confirmatory soil samples did not contain diesel above the cleanup level.

c) **1992 - 2007: Approximately 64,391 Gallons Spilled**

On March 27, 2001, a release of gasoline occurred from bottom cracks in Tank CC-10. Six soil borings were completed in the vicinity of the tank on July 3, 2001, which indicated that the impacts to the soils were limited to the area immediately beneath the tank.

On January 1, 2002, a release of gasoline occurred from Tank CC-12. The release was stopped immediately and a total of 60 cubic yards of impacted soil were removed. Four soil borings were completed in the vicinity of the tank on February 12 and 25, 2002, that indicated that the impacts to the soils were limited to the area immediately beneath the tank.

On August 14, 2002, a release of gasoline occurred from Tank CC-10 due to a crack in a ½ inch diameter bleeder pipe attached to the tank valve. The pipe was repaired and visually impacted soil was excavated from around the tank valve. Excavation bottom and sidewall samples contained high concentrations of total petroleum hydrocarbons as diesel (TPH-d) and as gasoline (TPH-g).

On March 28, 2003, a release of jet fuel occurred from surge line 2 (San Jose surge line), due to a one-way check valve failure. The impacted soil was excavated shortly after the release at the end of March 2003.

On April 1, 2003, a release of approximately 530 barrels (approximately 22,260 gallons) of gasoline happened during a routine shipment of gasoline from Tank CC-14. Product-affected soil in the vicinity of the release was excavated. Between April 2 and May 30, 2003, product recovery was completed at wells around Tank CC-14 by a vacuum truck.

On April 14, 2003, SFPP personnel observed approximately one-half-inch of product identified as "transmix" (combination of gasoline, diesel, and jet fuel) floating on water in a

storm drain pipeline outfall located on the western side of Solano Way. An investigation determined that the source of the transmix was a 1/4-inch-diameter hole in a tank bottom de-watering line connected to Tank CC-6. The section of pipe was replaced and between April 23 and June 6, 2003, 31 'temporary extraction points' were installed in the northwestern area. A total of about 38,808 gallons of product were removed from the ground.

On May 30, 2003, a gasoline release to the ground occurred due to an open tattle-tail valve on Tank CC-26. The spill response/recovery operations consisted of vacuuming up the product.

On September 27, 2004, two cracks in the Tank CC-8 fill line resulted in a leak and subsequent excavation. TPH-g was detected at low levels in all of the soil samples and a vapor monitoring point was installed in the excavation that continues to be monitored for changes in vapor concentrations.

On August 2, 2005, SFPP personnel identified stained gravel in the northeastern area of the Site as the result of a tank bottom dewatering drain line cap failure. Since this water is in contact with fuel while in the AST, it contained both free and dissolved-phase hydrocarbons. The area in the vicinity of the dewatering line was excavated to a maximum depth of 3.5 feet below grade. Although residual TPH-g remained in the soils, the excavation could not be expanded due to its proximity to facility infrastructure.

On August 5, 2005, diesel odor and moisture were noticed near the bottom of Tank CC-16 and adjacent to the tank's vapor recovery line. In response to identifying this leak, the vapor recovery pipe was wrapped with absorbent cloth, the tank's diesel was drained, a 26.5-foot by 1-foot portion of the asphalt skirt located directly beneath the tank lip was removed, and the area was excavated to 1 foot below grade. Two confirmation soil samples that were collected from the bottom of the excavation contained residual diesel. The excavation was not expanded to avoid compromising the tank's integrity.

On February 1, 2006, a release of contaminated water occurred between Tanks CC-4 and CC-6. The release was caused by the failure of a cap along a 4 inch tank bottom dewatering drain line. The cap was replaced and visibly impacted soil was excavated to a few inches below grade. Confirmation soil samples collected from the excavation contained petroleum hydrocarbons at levels between 35 and 1,500 mg/kg.

On April 30, 2006, a release of approximately 3,223 gallons of gasoline occurred from a cracked bottom plate that had been lap-welded to the bottom of Tank CC-11. The impacted area was excavated to 4 feet below grade and product was removed from the excavation with a vacuum truck. Visually impacted soil was also excavated from around the tank and next to the valve up to 7 feet below ground surface. The excavation was backfilled and the tank bottom and sump were replaced.

On September 20, 2007, an excavation was completed in the northwestern area where diesel had leaked onto soil from pipes. The excavation was completed to between 2 and 6 inches below grade. The two confirmation soil samples collected contained elevated levels of TPH-d and TPH-g. However further excavation could not be completed due to the excavations proximity to below grade infrastructure.

13. Investigations: Throughout the history of Site operations, onsite subsurface assessments have been conducted in order to evaluate soil and groundwater conditions, some of which were conducted in response to known spills and releases presented above. Since the late 1980s, the Site has been investigated and characterized with respect to hydrogeology and the distribution of petroleum hydrocarbon constituents in the subsurface. In addition, there have been historical assessments to define the extent of soil and groundwater contamination offsite.

- a. A total of 86 monitoring and/or extraction wells are currently present at the Site, including temporary extraction points installed in the manifold area as a response to releases that occurred in early 2003. A total of 16 extraction wells are located throughout the Site and two French drains are located along the southern area of the Site. Thirty two of the wells are located offsite and were installed to define the plume extent on the northeastern, southern, and western adjacent properties.
- b. The ongoing monitoring of Site monitoring wells indicate areas of dissolved phase hydrocarbons and free product in the manifold area to the northeast. Table 1 summarizes the maximum contaminant concentrations in groundwater during the last two-year period (2011-2012), as measured in on-site wells. The reported TPH-d concentrations do not include the petroleum biodegradation polar compounds, as the laboratory ran the TPH-d analysis using silica gel cleanup, which removes polar compounds. Therefore, the TPH-d concentrations are not representative of the total diesel range contamination at the site.

Table 1: Maximum Contaminant Concentrations in Groundwater Measured in On-Site Monitoring Wells (2011 through 2012)

Constituent	Contaminant Concentration (µg/l)	Basis
Gasoline (TPH-g, C6-C12)	23,000	MW-38 (May 2012) and MW-27 (November 2011); 2012 <i>Annual Monitoring Report</i> issued by TRC, Appendix Table C-1
Diesel Fuel (TPH-d*, C9-C25)	830	MW-27 (May 2011); <i>Annual Monitoring Report</i> issued by TRC, Appendix Table C-1
Benzene	9,800	MW-27 (November 2011); <i>Annual Monitoring Report</i> issued by TRC, Appendix Table C-1
Ethyl-benzene	300	MW-27 (May 2011); <i>Monitoring Well Installation Report</i> issued by TRC, Appendix Table C-1
Methyl-tert Butyl Ether (MTBE)	1,700	LF-27 (May 2013); 2013 <i>Annual Monitoring Report</i> issued by TRC, Table 3

* TPH-d detections analyzed using silica gel cleanup

- c. In response to a 13267 Technical Report Requirement Order issued on June 20, 2012, additional off-site groundwater monitoring was initiated in July 2012. Two sentry groundwater monitoring wells were installed, one on the IndCor property and one on the Walnut Creek Flood Control property, to define the groundwater plume horizontal limits. The groundwater sample analytical results showed that the plume had migrated beyond the Site boundaries on to the IndCor and Walnut Creek Flood Control properties. Table 2

summarizes the maximum contaminant concentrations in groundwater measured in off-site wells.

Table 2: Maximum Contaminant Concentrations in Groundwater Measured in Off-Site Monitoring Wells Installed in February 2013

Constituent	Contaminant Concentration (µg/l)	Contaminant Concentration (µg/l)
	MW-42 Located on Contra Costa County Flood Control District Property	MW-34 Located at 5650 Imhoff Drive in Concord
Gasoline (TPH-g, C6-C12)	8,700	2,900
Diesel Fuel (TPH-d*, C9-C25)	3,200	120
Benzene	900	<1.0
Ethyl-benzene	420	3.2
Methyl-tert Butyl Ether (MTBE)	<1.0	<1.0

* TPH-d detections analyzed using silica gel cleanup

14. Remedial Action Plans: A remedial action plan (RAP) was prepared for the Site in 1995. In response to the Regional Water Board comments, two subsequent revisions were prepared in 1997 and 2001. The RAPs presented and evaluated numerous remedial alternatives for soil and groundwater remediation:

- a. The following alternatives were evaluated for soil: bioventing, nutrient injection, steam injection, surfactant injection, fracturing, vitrification, solidification, capping, excavation, soil vapor extraction, and no action.
- b. The following alternatives were evaluated for groundwater: groundwater extraction from wells, groundwater extraction from trenches, non-aqueous phase skimming, vacuum enhanced product recovery, 3-phase vacuum assisted capture system, phytoremediation, sheet piling, slurry wall, nutrient injection, air injection, electro-osmosis, natural attenuation, and no action.
- c. Criteria for evaluation included the potential disruption of facility operations, impact to the community, technical feasibility, institutional feasibility, timeliness, environmental impacts, protection of human health and the environment, and cost. Based on this evaluation the following remedial actions were selected: 1) installation of a total fluids extraction system that extracts groundwater from two french drains and extraction from wells in the eastern portion of the Site; 2) recovery of mobile product when present from wells MW-2R, MW-12, MW-13, MW-15, MW-19, LF-10, and LF-15, the NE sump, and temporary extraction wells; 3) phytoremediation along the southern and western property boundaries; and 4) extraction and treatment of groundwater containing dissolved phase petroleum hydrocarbons and treatment of process water generated as part of Site operations. Groundwater from the extraction and treatment systems is treated and discharged under permit to the Central Contra Costa Sanitary District.

After failure of the first phytoremediation system installed in 1999, an *Expanded Phytoremediation Workplan* prepared for the Site in 2010 presented the design of a new phytoremediation system to mitigate off-site migration of impacted groundwater from the southwestern portion of the Site. The workplan stated that in the event that the phytoremediation system fails to perform and the cause cannot be determined or cannot be addressed, a sheet pile barrier with groundwater extraction will be installed. Regional Water Board staff approved the workplan in a letter dated July 21, 2010. The letter specifies January 1, 2013, as the deadline for demonstrating the phytoremediation system effectiveness. Although there is preliminary evidence that the phytoremediation system may be effective in containing petroleum hydrocarbons in groundwater onsite, additional data are required to demonstrate system effectiveness. This order requires a system effectiveness evaluation to address this data gap.

15. Basis for Cleanup Levels:

- a. **State Water Resources Control Board (State Water Board) Resolution No. 68-16**, entitled "Statement of Policy with Respect to Maintaining High Quality of Waters in California," applies to this discharge and requires the highest water quality consistent with the maximum benefit of the people.
- b. **State Water Board Resolution No. 92-49**, entitled "Policies and Procedures for Investigation and Cleanup and Abatement of Discharges under 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.
- c. **Regional Water Board Resolution No. 89-39**, entitled "Sources of Drinking Water," defines potential sources of drinking water to include all groundwater in the region with limited exceptions for areas of high total dissolved solids, low yield, or naturally-high contaminant levels. Groundwater underlying and adjacent to the site qualifies as a potential source of drinking water.
- d. **Beneficial Uses:** The Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) is the Regional Water 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 Regional Water Board and approved by the State Water Board, U.S. EPA, and the Office of Administrative Law, where required.

The Basin Plan designates the following potential beneficial uses of groundwater underlying and adjacent to the site:

- i. Municipal and domestic supply;
- ii. Industrial process supply;
- iii. Industrial service supply;
- iv. Agricultural water supply; and
- v. Freshwater replenishment to surface water.

Groundwater discharge to Walnut Creek occurs at different times of the year, based on shallow groundwater and surface water levels. The existing and potential beneficial uses of Walnut Creek include:

- i. Water contact recreation;
 - ii. Non-contact water recreation;
 - iii. Cold fresh water habitat;
 - iv. Wildlife habitat;
 - v. Preservation of rare and endangered species; and
 - vi. Fish migration and spawning
- e. The Discharger supports the use of the San Francisco Bay Regional Water Board May 2013 Environmental Screening Levels (May 2013 ESLs) as interim cleanup levels. As required by Task No. 4, these interim cleanup levels will be superseded by site specific cleanup levels acceptable to the Executive Officer and to be proposed by the discharger. The specific basis for each cleanup scenario is discussed below:
- i. **Basis for Groundwater Interim Cleanup Levels:** The groundwater interim cleanup levels for the site and downgradient properties are intended to protect beneficial uses of groundwater and will result in acceptable residual risk to human health, safety, and the environment. The groundwater interim cleanup levels are selected from the San Francisco Bay Regional Water Board May 2013 Environmental Screening Levels (May 2013 ESLs) document. Groundwater interim cleanup levels are shown in section B.2 below. SFPP, L.P. will propose site specific groundwater cleanup levels as required by Task 4 of this order.
 - ii. **Basis for Soil Interim Cleanup Levels:** The soil interim cleanup levels are based on a commercial/industrial land use exposure scenario for the Site and the downgradient property at 5650 Imhoff Drive and unrestricted land use for the Walnut Creek Flood Control Channel. The soil interim cleanup levels are selected from the May 2013 ESLs. Soil interim cleanup levels are shown in section B.3 below. SFPP, L.P. will propose site specific soil cleanup levels as required by the Task 4 of this order.
 - iii. **Basis for Soil Gas Interim Cleanup Levels:** The soil gas interim cleanup levels for the site are intended to prevent vapor intrusion into occupied buildings and will result in acceptable residual risk to humans. The soil gas interim cleanup levels are based on a commercial/industrial land use scenario for the Site and IndCor property and unrestricted land use scenario for Walnut Creek Flood Control Channel. The soil gas interim cleanup levels are selected from the May 2013 ESLs. Soil gas interim cleanup levels are shown in section B.4 below. SFPP, L.P. will propose site specific soil gas cleanup levels as required by the Task 4 of this order.
 - iv. **Basis for Indoor Air Interim Cleanup Levels:** The indoor air interim cleanup levels for the site are intended to prevent unhealthy levels of volatile organic compounds (VOCs) in indoor air as a result of vapor intrusion. The indoor air interim cleanup levels are based on a commercial/industrial land use scenario and selected from the May 2013 ESLs. The indoor air interim cleanup levels are shown

in section B.5 below. SFPP, L.P. will propose site specific indoor air cleanup levels as required by the Task 4 of this order.

- 16. Future Changes to Cleanup Levels:** The goal of this remedial action is to restore the beneficial uses of surface water and groundwater underlying and adjacent to the site and to protect human health, safety, and the environment. If new technical information indicates that cleanup levels can be surpassed, the Regional Water Board may decide that further cleanup actions shall be taken.
- 17. Reuse or Disposal of Extracted Groundwater:** Regional 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. Regional Water Board current discharge requirements are presented in Order No. R2-2012-0012 (NPDES NO. CAG912002) General Waste Discharge Requirements for Discharge or Reuse of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by Volatile Organic Compounds (VOC), Fuel Leaks, and Other Related Wastes (VOC and Fuel General Permit).
- 18. Basis for 13304 Order:** CWC section 13304 authorizes the Regional Water Board to issue orders requiring the Discharger to cleanup and abate waste where the Discharger 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 pollution or nuisance.
- 19. Cost Recovery:** Pursuant to California Water Code Section 13304, the Discharger is hereby notified that the Regional Water Board is entitled to, and may seek reimbursement for all reasonable costs actually incurred by the Regional 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.
- 20. California Environmental Quality Act (CEQA):** This Site has been previously subject to cleanup requirements under Regional Water Board Order No. 92-082. This Order only requires that the requirements first imposed by these previous orders be continued, to gather information, to improve the effectiveness of the ongoing remediation, and to further evaluate the site environmental conditions. These actions will not result in any potential significant impacts beyond the existing baseline. As such, the general rule that CEQA only applies to projects that have the potential for causing a significant effect on the environment (the "common sense" exemption) applies, and no environmental document needs to be prepared in connection with the adoption of this Order [Cal. Code Regs., title 14, §15061(b)(3)].
- 21. Notification:** The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to update site cleanup requirements Order No. 92-082 and has provided them with an opportunity to submit their written views and recommendations.
- 22. Public Hearing:** The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the proposed site cleanup requirements order for the Site.

IT IS HEREBY ORDERED, pursuant to CWC sections 13304 and 13267, that the Discharger 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.

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

B. CORRECTIVE ACTION PLAN AND CLEANUP LEVELS

1. **Implement Corrective Actions:** The Discharger shall implement corrective actions as necessary to comply with the requirements of this Order. At a minimum, implementation of remedial actions shall be demonstrated through compliance with the SMP attached to this Order, and as may be revised by the Executive Officer. The attached SMP is designed to collect information necessary to evaluate the potential migration of chemicals of concern (COCs) associated with known releases at the site and the effectiveness of remedial actions implemented to address those releases. The attached SMP may be revised at the discretion of the Executive Officer, as necessary, to better evaluate site conditions, discharges, and remedial action effectiveness.
2. **Interim Cleanup Levels:** Pending the establishment of site-specific cleanup levels as required by Task 4 of this Order, the Discharger shall use the following interim cleanup levels for the purpose of conducting remedial investigation and remedial actions:
 - a) The following groundwater interim cleanup levels shall be met in all wells located on the western Site boundary and on the Walnut Creek Flood Control Channel:

Table B 2.1: Walnut Creek Flood Control Channel Groundwater Interim Cleanup Levels

Constituent	Level (µg/l)	Basis
Gasoline (TPH-g) (C6-C12)	500	Aquatic Habitat (AH) Protection
Diesel Fuel (TPH-d)* (C9-C25)	640	AH Protection
Benzene	46	AH Protection
Ethyl-benzene	30	AH Protection
Methyl-tert Butyl Ether (MTBE)	8,000	AH Protection

Note: The groundwater interim cleanup levels are selected from the May 2013 Environmental Screening Levels compiled by Regional Water Board staff, Table F-2a: *Surface Water Screening Levels-Fresh Water Habitat*

- b) The following groundwater interim cleanup levels shall be met in all wells located on Site and IndCor property:

Table B 2.2: On-Site and IndCor Property Groundwater Interim Cleanup Levels

Constituent	Level (µg/l)	Basis
Gasoline (TPH-g) (C6-C12)	100	Protection of groundwater as a source or potential source of drinking water
Diesel Fuel (TPH-d)* (C9-C25)	100	Protection of groundwater as a source or potential source of drinking water
Benzene	1	Protection of groundwater as a source or potential source of drinking water
Ethyl-benzene	30	Protection of groundwater as a source or potential source of drinking water
Methyl-tert Butyl Ether (MTBE)	5	Protection of groundwater as a source or potential source of drinking water

Note: The groundwater interim cleanup levels are selected from the May 2013 Environmental Screening Levels compiled by Regional Water Board staff, Table F-1a: *Groundwater Screening Levels (groundwater is a current or potential drinking water resource)*

3. Soil Cleanup Levels:

- a) The following soil interim cleanup levels shall be met in all IndCor property soils:

Table 3.1: IndCor Property Soil Interim Cleanup Levels

Constituent	Level (mg/kg)	Basis
Gasoline (TPH-g) (C6-C12)	500	Odor threshold
Diesel Fuel (TPH-d)* (C9-C25)	500	Odor threshold
Benzene	0.044	Protection of groundwater as a source or potential source of drinking water
Ethyl-benzene	3.3	Protection of groundwater as a source or potential source of drinking water
Methyl-tert Butyl Ether (MTBE)	0.023	Protection of groundwater as a source or potential source of drinking water

Note: The soil interim cleanup levels selected from the May 2013 Environmental Screening Levels compiled by Regional Water Board staff, Table G: *Soil Screening Levels for Leaching Concerns – drinking water resource* and Table H2: *Components for Ceiling Levels in Shallow Soil*

- b) The following soil interim cleanup levels shall be met in all on-Site property soils:

Table 3.2: On-Site Property Soil Interim Cleanup Levels

Constituent	Level (mg/Kg)	Basis
Gasoline (TPH-g) (C6-C12)	2,400	Protection of commercial/industrial worker
Diesel Fuel (TPH-d)* (C9-C25)	1,100	Protection of commercial/industrial worker
Benzene	3.7	Protection of commercial/industrial worker
Ethyl-benzene	24	Protection of commercial/industrial worker
Methyl-tert Butyl Ether (MTBE)	190	Protection of commercial/industrial worker

Note: The soil interim cleanup levels are selected from the May 2013 Environmental Screening Levels compiled by Regional Water Board staff, Table K-2: *Direct Exposure Soil Screening Levels – commercial/industrial worker exposure scenario*

- c) The following soil interim cleanup levels shall be met in all Walnut Creek Flood Control Channel soils:

Table 3.3: Walnut Creek Flood Control Channel Soils Interim Cleanup Levels

Constituent	Level (mg/Kg)	Basis
Gasoline (TPH-g) (C6-C12)	100	Unrestricted land use – odor threshold
Diesel Fuel (TPH-d)* (C9-C25)	100	Unrestricted land use - odor threshold
Benzene	0.044	Unrestricted land use – protection of groundwater
Ethyl-benzene	3.3	Unrestricted land use - protection of groundwater
Methyl-tert Butyl Ether (MTBE)	0.023	Unrestricted land use – protection of groundwater

Note: The soil interim cleanup levels are selected from the May 2013 Environmental Screening Levels compiled by Regional Water Board staff, Table A-1: *Shallow Screening Levels for Residential Land Use (groundwater is a current or potential drinking water resource)*

4. Soil Gas Interim Cleanup Levels:

- a) The following soil gas interim cleanup levels shall be met in all IndCor property soil gas samples to ensure protectiveness of human health in occupied buildings. On-site soil vapor results are evaluated by the Discharger as part of standard operating procedures.

Table 4.1: On-Site and IndCor Property Soil Gas Interim Cleanup Levels

Constituent	Level ($\mu\text{g}/\text{m}^3$)	Basis
Gasoline (TPH-g) (C6-C12)	1,200,000	Vapor intrusion (VI) protection
Diesel Fuel (TPH-d)* (C9-C25)	570,000	VI protection
Benzene	420	VI protection
Ethyl-benzene	4,900	VI protection
Methyl-tert Butyl Ether (MTBE)	47,000	VI protection

Note: The soil gas interim cleanup levels are selected from the May 2013 Environmental Screening Levels compiled by Regional Water Board staff, Table E-2: *Shallow Soil Gas Screening Levels for Evaluation of Potential Vapor Intrusion*

- b) Should land use change in the future along Walnut Creek Flood Control Channel, the following soil gas cleanup levels shall be met in all soil gas samples:

Table 4.2: Walnut Creek Flood Control Channel Soil Gas Interim Cleanup Levels

Constituent	Level ($\mu\text{g}/\text{m}^3$)	Basis
Gasoline (TPH-g) (C6-C12)	150,000	Unrestricted land use- Vapor intrusion (VI) protection
Diesel Fuel (TPH-d)* (C9-C25)	68,000	Unrestricted land use- VI protection
Benzene	420	Unrestricted land use- VI protection
Ethyl-benzene	490	Unrestricted land use- VI protection
Methyl-tert Butyl Ether (MTBE)	4,700	Unrestricted land use- VI protection

Note: The soil gas interim cleanup levels are obtained from the May 2013 Environmental Screening Levels compiled by Regional Water Board staff, Table E-2: *Shallow Soil Gas Screening Levels for Evaluation of Potential Vapor Intrusion*

5. **Indoor Air Cleanup Levels:** The following indoor air interim cleanup levels shall be met in occupied IndCor property buildings to ensure protectiveness of human health:

Table 5.1: Indoor Air Interim Cleanup Levels

Constituent	Level ($\mu\text{g}/\text{m}^3$)	Basis
Gasoline (TPH-g) (C6-C12)	1,200	Indoor air protection
Diesel Fuel (TPH-d)* (C9-C25)	570	Indoor air protection
Benzene	0.42	Indoor air protection
Ethyl-benzene	4.9	Indoor air protection
Methyl-tert Butyl Ether (MTBE)	47	Indoor air protection

Note: The soil gas interim cleanup levels are selected from the May 2013 Environmental Screening Levels compiled by Regional Water Board staff, Table E-3: *Ambient and Indoor Air Screening Levels (volatile chemicals only)*

C. TASKS

1. **Offsite South Area Investigation Technical Report:** The Discharger shall submit a technical report, acceptable to the Executive Officer, that presents the results of the recent investigation performed at the IndCor Property - 5650 Imhoff Drive in Concord, California. The report shall summarize the implementation of the work proposed in the June 14, 2013, workplan, as approved by the Regional Water Board on August 1, 2013. The report shall include a description of geologic conditions, soil properties, contaminant concentrations, risk modeling results, and recommendations relevant for assessing potential vapor intrusion risk on the IndCor Property that is related to contaminants of concern attributable to the Discharger.

Compliance Date:

November 29, 2013

2. **Southwest Border Area "A" Investigation Technical Report:** The Discharger shall submit a technical report, acceptable to the Executive Officer that presents investigation findings for the Southwest Border Area "A" and the Walnut Creek Flood Control Channel. The additional investigation shall be conducted in accordance with the May 31, 2013, workplan approved by the Regional Water Board on August 14, 2013. The report shall include a description of geologic conditions encountered, contaminant concentrations, and recommendations required to assess risk to Walnut Creek and the wetlands adjacent to Walnut Creek.

Compliance Date:

December 20, 2013

3. **Risk Assessment Workplan:** Submit a workplan acceptable to the Executive Officer for the preparation of a site-specific risk assessment and site specific cleanup levels for groundwater, soil, soil gas, and indoor air. The workplan shall include a conceptual site model (CSM) (i.e., identify pathways and receptors where Site contaminants pose a potential threat to human health, safety, or the environment).

Compliance Date:

January 17, 2014

4. **Risk Assessment Report:** The Discharger shall submit a technical report acceptable to the Executive Officer that contains an updated human and ecological health risk assessment for receptor pathways identified in Task 3, a detailed discussion of updated CSM elements, and site specific cleanup levels for groundwater, soil, soil gas, and indoor air.

Compliance Date:

July 16, 2014

5. **Revised Corrective Action Plan (CAP):** Submit a technical report acceptable to the Executive Officer containing:

- a) An evaluation of historical remedial action effectiveness implemented at: 1) the Site, 2) the IndCor Property, and 3) the Walnut Creek Flood Control Channel and wetlands including:
- i) Adequately measured soil, geologic, hydrologic, and water quality parameters, including 1) contaminant concentrations in soil, soil gas, indoor air, and groundwater, 2) water levels demonstrating hydraulic capture and containment, or lack thereof, 3) appropriately calculated hydraulic gradients, and 4) chemical gradients;
 - ii) A summary of the effectiveness of contaminant migration control and the protection of human health, safety, and the environment;
 - iii) A comparison of contaminant concentration trends with site specific cleanup levels as required by the Task 4; and
 - iv) Remediation performance data including: 1) contaminant mass removed or destroyed; 2) volume and mass of separate-phase product removed; 3) volume of groundwater extracted; 4) mass removed per million gallons extracted; and 5) total mass flux annually to Walnut Creek wetlands and off-site towards the south from 1993 till present, presented annually. If these historical remediation performance data do not exist, the Discharger shall evaluate the performance using other methods, such as free product mass reduction or declining soluble contaminant concentrations.
- b) A feasibility study evaluating alternative final remedial actions including:
- i) projections of cost, effectiveness, benefits, and impacts on public health, safety, and the environment for each remedial alternative;
 - ii) A plan that ensures no additional contaminated groundwater migrates offsite to the Walnut Creek wetlands or the IndCor property.

- iii) Recommended final remedial actions; and
- iv) Proposed tasks and a time schedule for implementation.

The feasibility study, Item b above, shall be consistent with the guidance provided by Subpart F of the National Oil and Hazardous Substances Pollution Contingency Plan (40 C.F.R. § 300), CERCLA guidance documents with respect to remedial investigations and feasibility studies, Health and Safety Code section 25356.1(c), and State Water Board Resolution No. 92-49 as amended ("Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304").

Compliance Date: **January 16, 2015**

6. **Corrective Action Implementation Report:** Submit a technical report acceptable to the Executive Officer documenting completion of necessary tasks identified in Task 5 – Revised CAP. For ongoing actions, such as soil vapor extraction or groundwater extraction, the report shall document system start-up (as opposed to completion) and shall present initial system effectiveness results (e.g., capture zone or area of influence). Proposals for further system expansion or modification may be included in annual reports (see Self-Monitoring Program).

Compliance Date: **December 18, 2015**

7. **Corrective Action Completion Reports:** Submit three technical reports acceptable to the Executive Officer documenting the completion of necessary tasks identified in Task 5-revised CAP for the Walnut Creek Flood Control Channel wetlands, the IndCor property, and the Site. The reports shall present the completion of the remedial actions implemented to eliminate current and future potential exposure to concentrations above site specific cleanup levels required by Task 4. The reports shall demonstrate achievement of onsite hydraulic containment. The reports shall provide a detailed discussion of any instances of implementation actions falling short of the Task 2 requirements, including an assessment of any potential human health or environmental effects resulting from these shortfalls. The report may be combined with a self-monitoring report, provided that the report title clearly indicates its scope. The report may propose changes to the CAP, as acceptable to the Executive Officer.

The three reports will have the following completion dates:

- a) **Corrective Action Completion Report for Walnut Creek Wetlands**

Compliance Date: **December 20, 2016**

- b) **Corrective Action Completion Report for IndCor Property**

Compliance Date: **December 20, 2016**

- c) **Corrective Action Completion Report for the Site**

Compliance Date: **December 20, 2019**

- 8. Optimization of Monitoring Well Network and Revised Self-Monitoring Program:** The Discharger shall submit a technical report, acceptable to the Executive Officer, which evaluates and optimizes the location, condition, and effectiveness of all monitoring wells that comprise the Site groundwater monitoring network. The evaluation shall consider well location, total well depth, screen interval, as well as the total number and spatial distribution of wells in terms of providing adequate monitoring data for plume monitoring and remediation effectiveness evaluation. The report shall: 1) propose the destruction, repair, and/or replacement of any wells that are damaged, improperly screened, or poorly located; 2) propose the construction of any new wells necessary to provide sufficient monitoring data needed to adequately perform the tasks specified in this Order; 3) present a revised, detailed Self-Monitoring Program for the Site.

Compliance Date:

December 20, 2013

- 9. Revised Risk Assessment Report:** When required, as outlined below, the Discharger shall submit a technical report, acceptable to the Executive Officer, which contains an updated human and/or ecological health risk assessment (risk assessment), a detailed discussion of updated CAP elements, and proposed implementation actions taken.

An updated and/or more detailed human and/or ecological health risk assessment will be required if any of the following triggers occur: 1) data indicate that the approved remedial action plan should be revised in response to revision of drinking water standards, maximum contaminant levels, or other health-based criteria, 2) upon presentation by the property owner of a credible, specific reuse and/or redevelopment plan to Regional Water Board staff and the Discharger for areas immediately adjacent to the Site where offsite impacts may exist, or 3) upon any actual or proposed material change to the Facility as determined by the Discharger or Regional Water Board staff. The purpose of the risk assessment would be to identify risks to potential human or ecological receptors posed by petroleum fuel hydrocarbons discharged from the Facility both onsite and offsite, when applicable and to ensure protection of human health, safety, and the environment, which may require a land use covenant recorded on the property deed. Such technical reports shall not be required unless the Executive Officer determines that the new information is reasonably likely to warrant a revision in the approved corrective action plan or cleanup levels.

Compliance Date:

90 days after any trigger (1-3)

- 10. Proposed Curtailment:** Submit a technical report acceptable to the Executive Officer containing a proposal to curtail remediation. Curtailment includes monitoring program reduction or termination (e.g., abandonment of some or all monitoring wells). The report shall include the rationale for curtailment. Proposals for final closure shall demonstrate that cleanup levels have been met, contaminant concentrations are stable, and contaminant migration potential is minimal.

Compliance Date:

60 days prior to proposed curtailment

- 11. Implementation of Curtailment:** Submit a technical report acceptable to the Executive Officer documenting completion of the tasks identified in Task 10

Compliance Date: **60 days after Executive Officer approval**

- 12. Evaluation of New Technical Information:** When requested, submit a technical report acceptable to the Executive Officer evaluating new technical information that bears on the approved corrective action plan and cleanup levels for this Site. In the case of a new cleanup technology, the report shall evaluate the technology using the same criteria used in the feasibility study. Such technical reports will not be requested unless the Executive Officer determines that the new information is reasonably likely to warrant a revision in the approved corrective action plan or cleanup levels.

Compliance Date: **90 days after requested by Executive Officer**

- 13. Delayed Compliance:** If the Discharger is delayed, interrupted, or prevented from meeting one or more of the completion dates specified for the above tasks, the Discharger shall promptly notify the Executive Officer, or the Executive Officer may consider revision to this Order or formal enforcement.

D. PROVISIONS

- 1. No Nuisance:** The storage, handling, treatment, or disposal of polluted soil or groundwater shall not create a nuisance as defined in CWC, section 13050(m).
- 2. Operations and Maintenance:** The Discharger 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. Construction Stormwater:** For any proposed grading or development project greater than one acre in size, the Discharger shall submit a Notice of Intent to the State Water Board, submit a Storm Water Pollution Prevention Plan acceptable to the Executive Officer and implement BMPs for the control of storm water in accordance with requirements specified in the State Water Board's General Permit for Storm Water Discharges Associated with Construction Activities Order No. 2009-0009-DWQ. The Discharger will be deemed in compliance with this Provision if another party constructing improvements on property owned by the Discharger, pursuant to an easement granted by the Discharger, has obtained coverage under the General Permit.
- 4. Cost Recovery:** The Discharger is liable, pursuant to CWC section 13304, to the Regional Water Board for all reasonable costs incurred by the Regional 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 reimbursement program. Any disputes raised by the Discharger over reimbursement amounts or methods used in that program shall be consistent with the dispute resolution procedures for that program.

5. **Access to Site and Records:** The Discharger shall permit the Regional Water 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 Discharger.
6. **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 a California registered civil engineer.
7. **Lab Qualifications:** All samples shall be analyzed by State-certified laboratories or laboratories accepted by the Regional Water Board using approved U.S. EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/quality control records for Regional Water Board review. This provision does not apply to analyses that can only reasonably be performed onsite (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 and the Executive Officer may modify this list as needed: Regional Water Board, Contra Costa County Environmental Health Services, IndCor Properties, and Contra Costa County Flood Control and Water Conservation District.
9. **Electronic Reporting:** All reports submitted pursuant to this Order shall be submitted as paper copies and electronic files in PDF format. The Regional 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 Regional 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.

Upon request by Regional Water Board staff, monitoring results, including water level measurements, sample analytical results, coordinates, elevations, etc., shall be provided electronically in Microsoft Excel[®] or similar spreadsheet format. This format facilitates data computations and/or plotting that Regional 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 as long as a PDF version is included.

All electronic files shall be submitted via the Regional Water Board's Geotracker website, email (only if the file size is less than 3 MB) or on CD. CD submittals may be included with a print report. Email notification shall be provided to Regional Water Board staff whenever a file is uploaded to Geotracker.

- 10. Reporting of Changed Owner or Operator:** The Discharger shall file a technical report on any changes in Site occupancy or ownership associated with the property described in this Order.
- 11. 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 Discharger shall report such discharge to the Regional Water Board by calling (510) 622-2369. A written report shall be filed with the Regional Water 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 California Office of Emergency Services required pursuant to the Health and Safety Code
- 12. Implementation of Self-Monitoring Program:** The Discharger shall implement the Self-Monitoring Program attached to this Order and as may be revised by the Executive Officer.
- 13. Rescission of Existing Order:** This Order supersedes and rescinds Order No. 92-082 except for enforcement purposes.
- 14. Periodic SCR Review:** The Regional Water Board will review this Order periodically and may revise it when necessary.

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 XX, XX 2013.

Bruce H. Wolfe
Executive Officer

Attachments: Self-Monitoring Program
Figure 1: Vicinity Map
Figure 2: Site Plan
Figure 3: Aerial View of Site
Figure 4: Dissolved Phase Hydrocarbon Contaminants in Groundwater
Figure 5: Measurable Non-aqueous Phase Hydrocarbons Thickness

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

GENERAL SELF-MONITORING PROGRAM for
SITE CLEANUP REQUIREMENTS ORDER NO. R2-2013-00XX

For the:

SFPP, L.P., An operating partnership of Kinder Morgan, L.P.

For the property located at:

1550 Solano Way

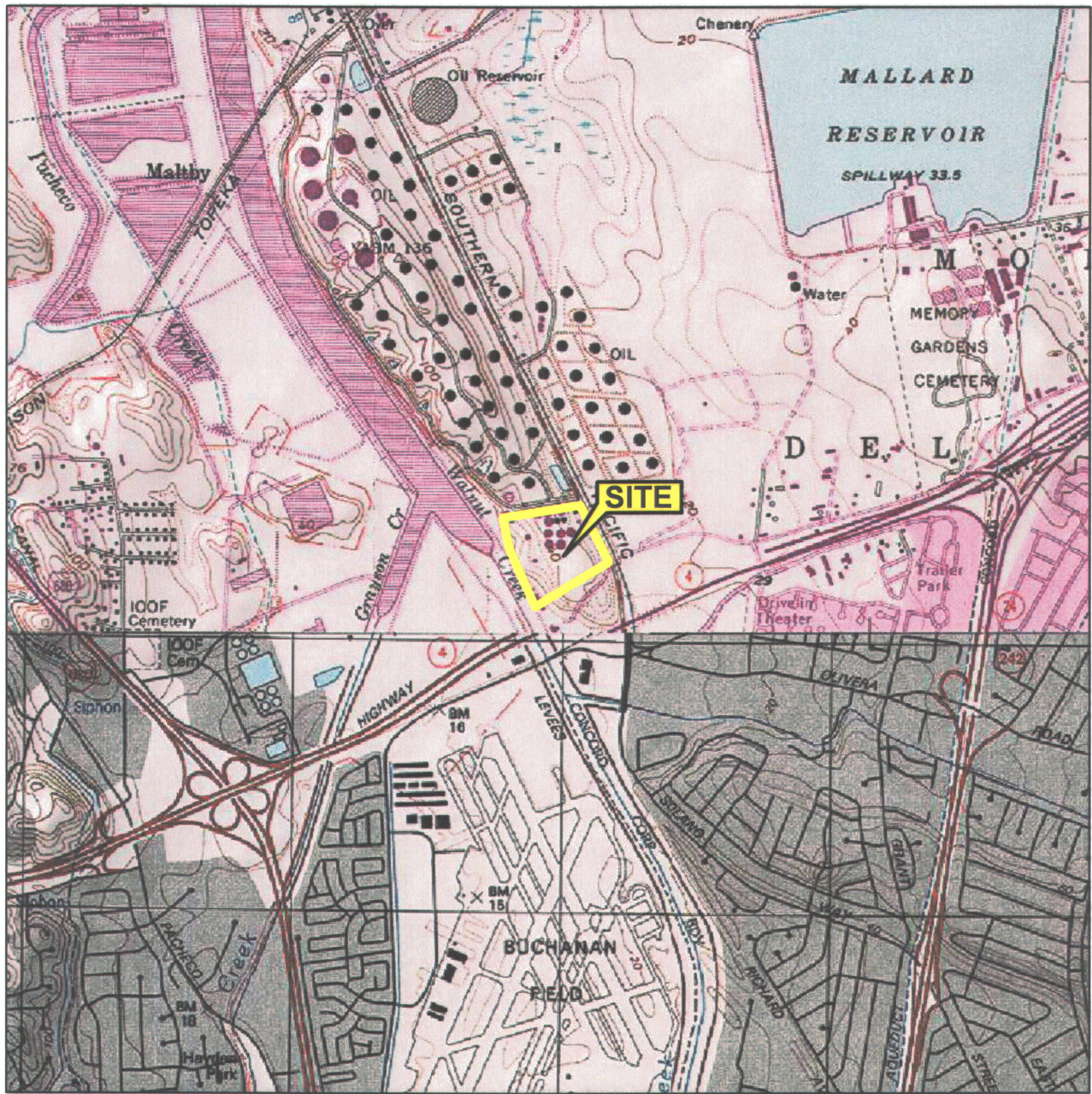
Concord, Contra Costa County

1. **Authority and Purpose:** The Regional Water Board requests the technical reports required in this Self-Monitoring Program (SMP) pursuant to CWC sections 13267 and 13304. This SMP is intended to document compliance with Order No. R2-2013-00XX.
2. **Monitoring Requirements:** The Discharger shall perform monitoring (water level measurement, observations, and analytical sampling) according to the following table:

Well #	Sampling Frequency	Analyses
MW-2R, MW-3, MW-4, MW-5, MW-6, MW-8R, MW-10, MW-12, MW-13, MW-14, MW-15, MW-16, MW-19, MW-22, MW-26, MW-27, MW-28, MW-29, MW-30, MW-31, MW-32, MW-34, MW-35, MW-37, MW-38, MW-39, MW-40, MW-41, MW-42,, LF-2, LF-3, LF-4, LF-5, LF-6, LF-8, LF-9, LF-10, LF-11, LF-12, LF-15, LF-16, LF-17, , LF-19, LF-20, LF-22, LF-23, LF-24, LF-27, EX-1, EX-5, , EX-16, EX-17, EX-18R, EX-19R, EX-20, EX-21, EX-22, EX-26, EX-27, EX-28, EX-29, RW-1	SA	TPH-D 8015M; TPH-G, BTEX, and MTBE by 8260B
LF-1, LF-7, LF-21, LF-25, LF-26, LF-28	A	TPH-D 8015M; TPH-G, BTEX, and MTBE by 8260B

- Notes: SA = Semi-Annually (May & November)
A = Annually (November)
TPH-D = total petroleum hydrocarbons as diesel
TPH-G = total petroleum hydrocarbons as gasoline
BTEX = benzene, toluene, ethylbenzene, and total xylenes
MTBE = methyl tert-butyl ether
8015M = EPA Method 8015M or equivalent
8260B = EPA Method 8260B or equivalent

- b. **Graphic Presentation:** The following maps, figures, and graphs (if applicable) shall be included in each SMR to visually present data collected pursuant to this SMP:
- (1) Plan-view maps showing all monitoring and sampling locations, surface water bodies, and the Site's boundaries;
 - (2) Groundwater level/piezometric surface contour maps for each groundwater-bearing zone of interest showing calculated groundwater gradients and flow directions under/around the Site, based upon the past and present water level elevations and pertinent visual observations;
 - (3) Iso-concentration contour maps displaying analyte concentrations and sample locations for each constituent of concern;
 - (4) Concentration vs. time graphs for key sampling parameters for select sampling locations; and
 - (5) Any other maps, figures, photographs, cross-sections, graphs, and charts necessary to visually demonstrate the appropriateness and effectiveness of sampling, monitoring, characterization, investigation, or remediation activities relative to the goals of this order.
- c. **Tabular Presentation:** The following data (if applicable) shall be presented in tabular form and included in each SMR to show a chronological history and allow quick and easy reference:
- (1) Well designations
 - (2) Well location coordinates (latitude and longitude)
 - (3) Well construction (including top of well casing elevation, total well depth, screen interval depth below ground surface, and screen interval elevation)
 - (4) Groundwater depths
 - (5) Groundwater elevations
 - (6) Horizontal groundwater gradients
 - (7) Vertical groundwater gradients (including comparison wells from different zones) when appropriate
 - (8) Phase-separated product elevations
 - (9) Phase-separated product thicknesses
 - (10) Current analytical results (including analytical method and detection limits for each constituent)
 - (11) Historical analytical results (including at least the past five years unless otherwise requested)
 - (12) Measurement dates
 - (13) Groundwater extraction, including:
 - (a) Average daily extraction rate
 - (b) Total volume extracted for monitoring period
 - (c) Cumulative total volume extracted since system inception
 - (14) Contaminant mass removal, including:
 - (a) Average daily removal rate
 - (b) Total mass removed for monitoring period
 - (c) Cumulative total mass removed since system inception



1 MILE 3/4 1/2 1/4 0 1 MILE



SCALE 1 : 24,000



SOURCE:

United States Geological Survey
7.5 Minute Topographic Maps:
Vine Hill and Walnut Creek Quadrangles
California

VICINITY MAP

SFPP - Concord Station
Concord, California



201263.1












FIGURE 1



AERIAL VIEW OF SITE
 KMEP, L.P. - Concord Station
 Concord, California

FILE NAME: Z:\CHM\KMEP\Concord\Site\KMEP\CB\Draw\July13\WCOB\Draw\Figure 2.dwg (L:\port\lab\1117

LEGEND

-  Petroleum storage tank and designated KMEP number
-  Berm
-  Gate
-  Fence
-  Area border
-  Monitoring well
-  Deep monitoring well
-  Extraction well
-  French drain / recovery trenches
-  Arroyo willow
-  White alder



SITE PLAN

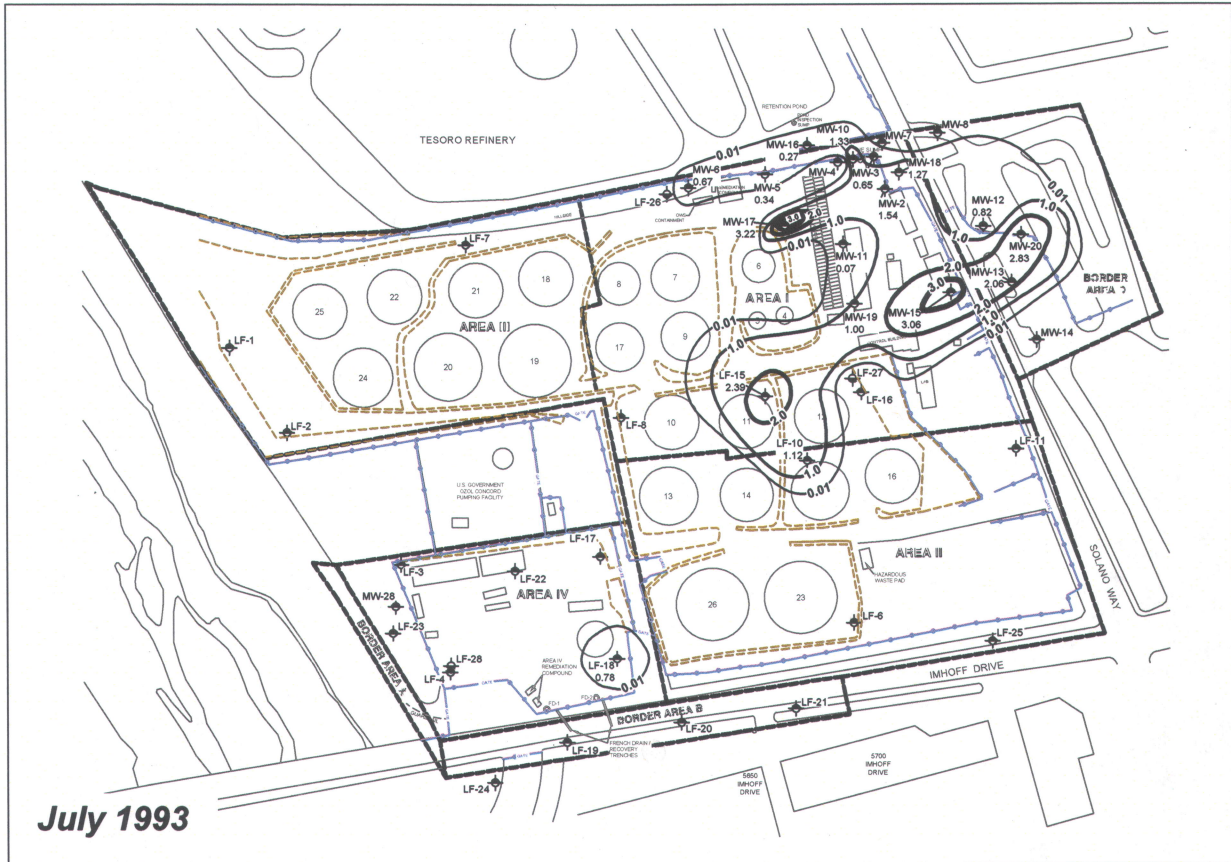
KMEP, L.P. - Concord Station
Concord, California



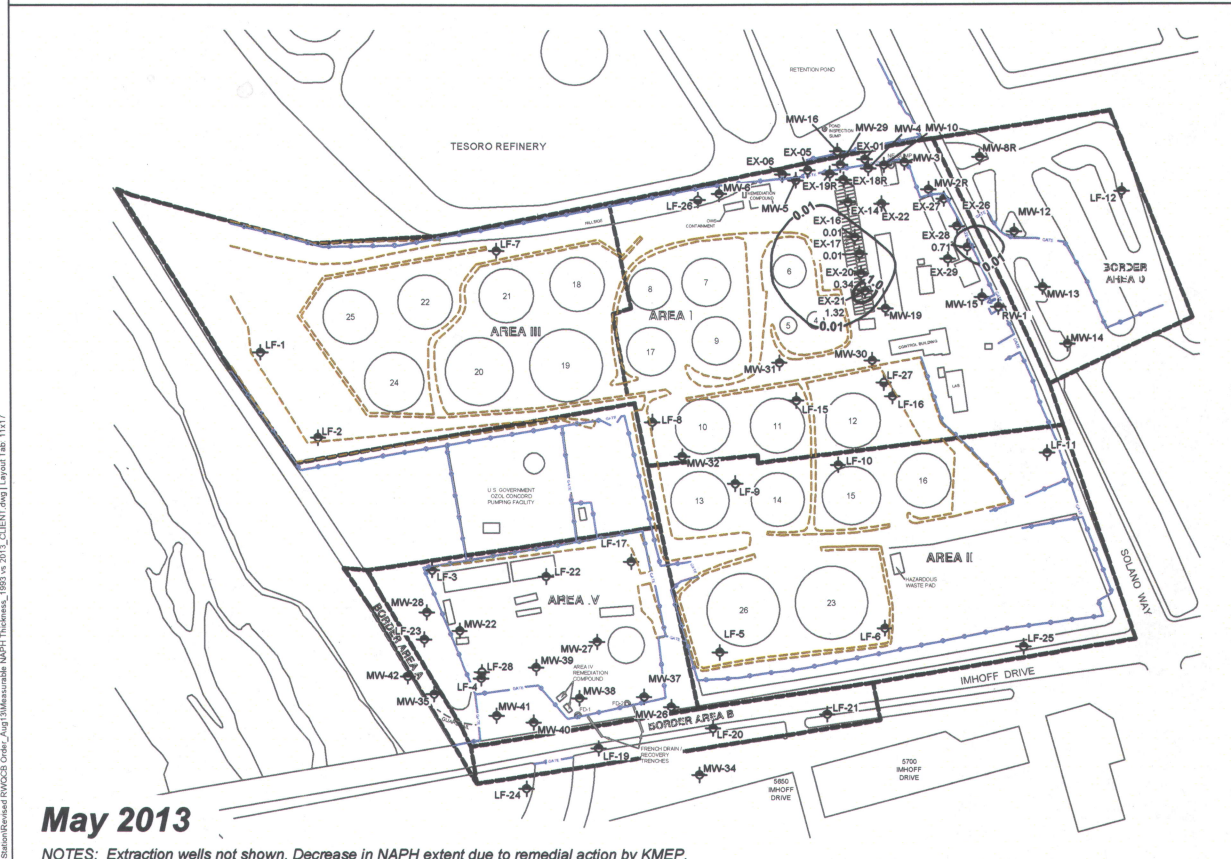
201263

FIGURE 3

NOTES:
Based on March 2004 site plan by Geomatrix, revised per March-April 2004 well survey by Towill, June 2004 field verification of site features by TRC; and surveys by V. Chavez, PLS 6923 in March 2005, June 2006, May 2010, and May 2011. Arroyo willows and white alders have not been surveyed. Grayed trees are dead.



July 1993



May 2013

NOTES: Extraction wells not shown. Decrease in NAPH extent due to remedial action by KMEP.

LEGEND

- Petroleum storage tank and designated SFPP number
- Shallow groundwater monitoring well
- Deeper groundwater monitoring well
- Fence
- Area border
- Berm
- 0.01 Product thickness value in feet
- 0.01 Product thickness contour in feet



MEASURABLE NAPH* THICKNESS
July 1993 vs. May 2013
KMEP, L.P. - Concord Station
Concord, California



201263

FIGURE 4

* = Non-aqueous petroleum hydrocarbons.



LEGEND

- Petroleum storage tank and designated SPPP number
- Fence
- Area border
- Berm
- Shallow groundwater monitoring well
- Deeper groundwater monitoring well
- Extraction well
- French drain
- Phytoremediation area
- Approximate extent of dissolved-phase hydrocarbon contaminants, second quarter 2013
- Interpolated potentiometric surface in shallow wells, May 20, 2013
- Groundwater flow direction



DISSOLVED-PHASE HYDROCARBON CONTAMINANTS
Second Quarter 2013
 KMEP, L.P. - Concord Station
 Concord, California

NOTES:
 Based on March 2004 site plan by Geomatrix, revised per March-April 2004 well survey by Towill, June 2004 field verification of site features by TRC, and surveys by V. Chavez, PLS 6323 in March 2005, June 2006, May 2010, and May 2011.