

BEFORE THE STATE WATER RESOURCES CONTROL BOARD

In the Matter of the California Regional Water)	
Quality Control Board – Los Angeles Region.)	
Amendment to: Revised Cleanup & Abatement)	CHEVRON
Order No. R4-2008-0006 (Issued April 9, 2008))	CORPORATION'S
Requiring Kinder Morgan Inc., Chevron)	PETITION FOR REVIEW
Corporation, ConocoPhillips, and the City of)	AND REQUEST FOR
Los Angeles, Harbor Department (a.k.a. Port of)	HEARING AND STAY
Los Angeles) To Assess, Cleanup and Abate the)	
Effects of Contaminants Discharged to Soil,)	
Groundwater, and Seawater (File No. 90-006))	

I. PETITION FOR REVIEW

Pursuant to Section 13320 of the California Water Code and Section 2050 of Title 23 of the California Code of Regulations (“CCR”), Chevron Corporation (“Petitioner”) petitions the State Water Resources Control Board (“State Board”) to review the January 28, 2010 action of the California Regional Water Quality Control Board, Los Angeles Region (“Regional Board”) in issuing the order entitled “Amendment to: Revised Cleanup & Abatement Order No. R4-2008-0006 (Issued April 9, 2008) Requiring Kinder Morgan Inc., Chevron Corporation, Conoco Phillips, and the City of Los Angeles, Harbor Department (a.k.a. Port of Los Angeles) To Assess, Cleanup and Abate the Effects of Contaminants Discharged to Soil, Groundwater, and Seawater (File No. 90-006).” Hereafter, this January 28, 2010 order, along with its Exhibit A and Attachments I-III, are referred to as the “Amended CAO.” A copy of the Amended CAO is attached as Exhibit 1.

Petitioner also asks the State Board to review the fact that the Amended CAO was issued to Chevron Corporation, which never owned, operated or used the site in any fashion.

In order to minimize duplication, Petitioner also joins in the petition and requests for hearing and stay filed concurrently herewith by Kinder Morgan Energy Partners LP. Pursuant to Section 13320 of the California Water Code and Section 2053 of the CCR, Petitioner further requests that an order be issued to stay the effect of the Amended CAO, and requests a hearing on this Petition.

A. NAME, ADDRESS, TELEPHONE NUMBER AND EMAIL ADDRESS OF PETITIONER.

Petitioner is Chevron Corporation
Care of Mr. Daniel L. Carrier
Chevron Environmental Management Company
145 S. State College Boulevard
P.O. Box 2292
Brea, California 92822-2292
Telephone: (714) 671-3371
Email: dcarrier@chevron.com

Petitioner requests that copies of all communications and documents relating to this Petition and that of Kinder Morgan also be sent to:

Christopher J. McNevin, Esq.
Pillsbury Winthrop Shaw Pittman LLP
725 S. Figueroa Street., Suite 2800
Los Angeles, CA 90017-5406
Telephone: (213) 488-7507
Email: chrismcnevin@pillsburylaw.com

B. THE SPECIFIC ACTION OR INACTION OF THE REGIONAL BOARD THAT THE STATE BOARD IS REQUESTED TO REVIEW.

Petitioner seeks review of the Regional Board's action contained in the January 28, 2010 Amended CAO. Petitioner also seeks review of the fact that the Regional Board issued this Amended CAO to Chevron Corporation, which never owned, used or occupied this site, as explained in Section D.4 below.

C. THE DATE ON WHICH THE REGIONAL BOARD ACTED OR FAILED TO ACT.

The Regional Board acted on January 28, 2010, when it issued the Amended CAO.

D. FULL AND COMPLETE STATEMENT OF THE REASONS THE ACTION OR INACTION WAS INAPPROPRIATE OR IMPROPER.

1. Site History.

The site is referred to as the former GATX Los Angeles Marine Terminal or "LAMT". This site is located on Mormon Island in Wilmington, California, in the heart of the enormous industrial facility known as the Port of Los Angeles or "POLA." The POLA and the adjacent Port of Long Beach are recognized as being among the world's busiest ports.

More particularly, the site is located on the southeast side of Mormon Island. The site is bounded to the west by Shell Oil's marine terminal and the adjacent U.S. Borax facility. To the north it is bounded by the Ultramar/Valero Oil Terminal. To the northeast it is bounded by the Rio Doce Pasha Omni Terminal. And to the southeast, it borders the East Basin Channel, one of the two major traffic channels in the POLA. (*See* POLA's Remedial Action Plan Former GATX Los Angeles Marine Terminal, submitted to the Regional Board on January 14, 2009 (hereafter "RAP"), Figure 1, attached here as Exhibit 2, and POLA's Former GATX Marine Terminal, 3rd Quarter, 2009 Groundwater Monitoring Report, submitted to the Regional Board on October 15, 2009 (hereafter "3rd Quarter 2009 Monitoring Report"), Figure 2, attached here as Exhibit 3.)

According to the 2009 RAP, Mormon Island was constructed in the early 1900s from fill material and landfill debris. (RAP Page 2, Section 2.1.) Beginning in 1923, POLA leased the site to the California Petroleum Company, then to the Texas Company, then to Continental Oil Company and finally to GATX, which became Kinder Morgan Liquids Terminals, LLC. The site was operated as a tank farm and marine terminal until

1999. The facilities were demolished beginning in 2003 and the site has been vacant since 2004. (RAP page 3, Section 2.2.)

The documents which POLA has submitted to the Regional Board indicate that beyond former operations on the premises, the site is impacted by neighboring facilities. For example, the RAP states that Fries Avenue, which borders the site to the west, is the “major artery for utility, storm drain, sewer, oil, gasoline and miscellaneous pipelines from the mainland to Mormon Island.” POLA has reported that land subsidence on Fries Avenue “caused at least three major oil releases.” (RAP page 2, Section 2.1.) Additionally POLA has reported the presence of fresh petroleum product and MTBE at the site, which was not used, stored or handled there by any of the former tenants. (See, e.g., 3rd Quarter 2009 Monitoring Report, Figure 8, attached hereto as Exhibit 4.) The Regional Board is aware of this history, because these documents form part of the administrative record for the CAO. But while POLA has named Shell Oil Company as a defendant in ongoing litigation for allegedly contributing site contaminants, this entity was not named on the CAO.

The Regional Board has recognized that “Groundwater at this site is saline, non-potable, not utilized for drinking water, and no longer designated for municipal beneficial use (i.e., drinking water).” (Exhibit A to Amended CAO at page 2 of 11.) The cleanup goals should reflect these actual site conditions and the data from numerous studies of the site requested by the Regional Board, rather than be based on drinking water standards.

2. The Cleanup Goals For Total Petroleum Hydrocarbons In Brackish Groundwater Are Inappropriate And Improper.

Although it recognizes that groundwater at this site is brackish and is “part of ocean water” (Attachment II to Amended CAO at page 1 of 21), the Regional Board used drinking water standards as the cleanup goals for TPH in groundwater.

In order to understand this error, it may be helpful to review the Amended CAO to see how the Regional Board decided to use drinking water standards. The Regional

Board explained this reasoning in its Exhibit A¹ to the Amended CAO. The Regional Board said that its cleanup goals:

are first based on the criteria listed in the California Toxics Rule (CTR) under Criterion Maximum Concentration (acute) for saltwater aquatic life, Criterion Continuous Concentration (chronic) for saltwater aquatic life, and human health protection, or consumption of aquatic organisms, whichever is most stringent. CTR applies because the site is located on Mormon Island, a peninsula constructed of dredged material from the harbor between 1900 and the early 1920s. Groundwater at this site is saline, non-potable, not utilized for drinking water, and no longer designated for municipal beneficial use (i.e., drinking water).

(Exhibit A to Amended CAO at page 2 of 11.)

The Regional Board then said, "However, not all the COCs identified at this site have criteria in the CTR." For those compounds with criteria not listed in the CTR, the Regional Board explained:

Staff used the site-specific risk-based screening levels using cancer-risk basis for this site for those COCs'[sic] criteria not found in the CTR.

If there are no developed or available site-specific risk-based screening levels based on cancer-risk for this site, then the MCLs, ALs and/or taste and odor thresholds are considered for screening the COCs. To minimize adverse nuisance conditions from some COCs, staff considered taste and odor thresholds which are narrative water quality objectives. For the COCs, based on USEPA Drinking Water Health Advisories or Suggested No-Adverse Response Levels, taste and odor thresholds for gasoline and diesel oil are 5 and 100 micrograms per liter ($\mu\text{g/l}$), respectively. A total petroleum hydrocarbons (TPH) cleanup goal of 100 $\mu\text{g/l}$ is selected for all fuel types and is consistent with what is used in the Los Angeles Region General National Discharge Elimination System (NPDES) Permit Nos. CAG834001 and CAG914001 for discharges to surface water.

(Exhibit A to Amended CAO at page 3 of 11.)

The Regional Board also stated that these cleanup goals would meet the California "Antidegradation Policy (Resolution No. 68-16)." (*Id.* at p.2 of 11.)

There are several problems with this rationale: (a) Groundwater at this site is not drinking water, and it is inappropriate to apply drinking water standards for taste and

¹ This document is a response to comments previously submitted to the Regional Board by Kinder Morgan.

odor; (b) The TPH standards are not necessary to prevent a nuisance because there has been no finding that a nuisance would exist if higher standards were applied; (c) The NPDES permit standards are based on drinking water protection and are inappropriate for cleanup goals here; and (d) The anti-degradation policy does not apply given the site conditions, including the background concentrations of MTBE and fresh TPH coming onto this site from offsite sources on Mormon Island. Moreover, the Regional Board has not accounted for those offsite sources in the Amended CAO.

a. **Drinking water standards are not appropriate for the brackish groundwater at this site, which the Regional Board characterizes as “part of the ocean.”**

The Regional Board found that the groundwater beneath the site is brackish water. This groundwater discharges to the water of the East Basin Channel in the port, not to a potential drinking water body.

The Regional Board was correct in determining that because the water beneath the LAMT site is brackish and not a source of drinking water, the values listed in the CTR under the “Criterion Maximum Concentrations, C1”: and “Criterion Continuous Concentrations, C2” for salt water aquatic life, or human protection for “consumption of “Organisms Only, D2” are applicable. The United States Environmental Protection Agency (“EPA”) promulgated the CTR to fill a gap in California water quality standards after the State was left without numeric water quality criteria for many priority toxic pollutants as required by the Clean Water Act. (*See* EPA’s Fact Sheet on Final California Toxics Rule, <http://www.epa.gov/waterscience/standards/rules/ctr/factsheet.html>.) These CTR water quality objectives are standards to develop cleanup goals for groundwater that discharges to a marine or estuarine environment.

However, after establishing non-drinking water standards for chemicals of concern that are listed in the CTR, the Regional Board incorrectly ordered the parties to employ a groundwater cleanup goal of 100µg/l for the non-CTR listed compounds, TPH

as gasoline, diesel, and motor oil. The Regional Board derived this TPH cleanup goal from drinking water standards which do not apply to this site. Specifically, the Regional Board cited three criteria for establishing its TPH cleanup goal of 100 µg/l: (1) taste and odor thresholds for drinking water as published by the EPA - the Regional Board stated that the taste and odor threshold of 100 µg/l is the concentration of TPH that one can taste and/or smell when drinking the water; (2) action levels for drinking water as established by the State Department of Public Health; and (3) California's Maximum Contaminant Levels ("MCLs") for drinking water. These drinking water standards are inconsistent with the recognized beneficial uses of the LAMT site and the adjacent water of the Los Angeles Harbor. Neither the groundwater beneath the LAMT nor the harbor water is drinking water, so the low drinking water taste and odor values, action levels, and MCLs do not apply to the brackish and ocean water at the site.

It is evident that taste and odor thresholds for drinking water were not intended to be used to establish taste and odor thresholds in the marine/estuarine environment. Instead, the Coastal Basin Plan states that for marine and estuarine waters, "Waters shall not contain taste or odor-producing substances in concentrations that impart undesirable tastes and odors in fish flesh or other edible aquatic resources, cause nuisance, or adversely affect beneficial uses" (California Regional Water Quality Control Board, Los Angeles Region, 1994, "Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties" (hereafter "Basin Plan"), page 3-16). The Regional Board has cited no evidence that over 100 µg/l of TPH in groundwater would cause undesirable taste and odor in fish or other edible aquatic resources, to the extent that any such are located in the surface water of the East Channel Basin.

b. There was and can be no finding that TPH cleanup goals over 100 µg/l would create a nuisance in the Port.

As to the vague reference to nuisance (and the related standard of “adversely affecting beneficial uses”), the Regional Board cited no evidence and made no findings to support use of this standard. An assertion of nuisance here would not be proper without showing that a cleanup level greater than 100 µg/l affects the beneficial use and enjoyment of the waters. Under California law, a nuisance is that which interferes with the comfortable enjoyment of life or property by being injurious to health, indecent or offensive to the senses, or an obstruction to the free use of property. (See California Civil Code § 3479; and *Koll-Irvine Center Property Owners Assn. v. County of Orange*, 24 Cal.App.4th 1036, 1040 (4th Dist. 1994)). The Regional Board made no findings to demonstrate that a TPH cleanup goal of 100 µg/l at this site was necessary to avoid a nuisance.

c. The general NPDES permits are not a valid basis for the 100 µg/l TPH standard.

The purpose of the NPDES permit discharge limits is to protect the receiving waters by preventing acute or chronic toxicity in the receiving waters. The TPH discharge limit of 100 µg/l in NPDES Permit No. CAG834001 is to protect drinking water sources. This is expressly supported by the following statements in General NPDES Permit No. CAG834001 (hereafter “NPDES Permit”):

1. The permit states that most discharges regulated under this NPDES permit are to creeks and streams which have the potential to recharge groundwater protected as drinking waters.
2. The permit discharge limits for MTBE, TBA, benzene, and most other constituents are set at the State of California drinking water standards.
3. The permit notes that because the order serves as a general NPDES permit and covers discharges to all surface waters in the Los Angeles Region, the

discharge limits are established to protect the most protective water quality objective for surface water beneficial uses in the Los Angeles Region (i.e., drinking water). (NPDES Permit, page 9.)

These drinking water standards do not apply at this site.

However, even if the Regional Board was justified in considering NPDES limits based on drinking water standards at the LAMT site, the NPDES permit allows for site-specific criteria to be applied in order to meet the water quality objectives. NPDES permit effluent limitations from groundwater cleanup projects generally are calculated assuming no dilution because the permit assumes that discharges from groundwater cleanup do not flow directly into receiving water with significant flow volume to consider dilution credit or allocate a mixing zone. This rationale assumes discharge to a stream or other potential drinking water source. Therefore, the NPDES permit provides the following exception:

An exception to this (no dilution) policy may be applied based on an approved mixing zone study, and based on demonstration of compliance with water quality objectives in the receiving water as prescribed in the Basin Plan. This exception process is more appropriate for an individual permit, and would not be appropriate for a general permit, that should be protective of most stringent water quality objectives and beneficial uses. If discharger requests that a dilution credit be included in the computation of effluent limit or that a mixing zone be allowed, an individual permit will be required. However, if no mixing zone is proposed, this general permit provides coverage for all discharges to receiving water bodies in Coastal Watersheds of Los Angeles and Ventura Counties.

(NPDES Permit at page 8.)

The NPDES permit allows for site-specific parameters to be developed when a mixing zone is present. In this case, the water of the East Basin Channel would be considered a mixing zone because it is a permanent receiving water body. Therefore, even if it were appropriate to use standards from the NPDES permit, the Regional Board should have considered a dilution factor in establishing the TPH cleanup goal, as allowed by the NPDES permit.

Further, support for the concept of using a dilution factor when establishing groundwater cleanup goals for groundwater discharge to a marine or estuarine water body may be found in the National Oceanic and Atmospheric Administration's (NOAA) Screening Quick Reference Table (SQuiRT), updated in 2008 (Buchman, M.F., 2008, NOAA Screening Quick Reference Tables, NOAA OR&R Report 08-1, Seattle, WA Office of Response and Restoration Division, National Oceanic and Atmospheric Administration, 34 pages), for surface water using EPA Ambient Water Quality Criteria (AWQC) for surface water. For groundwater, NOAA notes that suitable site-specific dilution factors should be applied to the surface water quality criteria to allow for dilution upon migration and discharge from groundwater to surface water (e.g., the Los Angeles Harbor). The previous 1999 version of the NOAA SQuiRT also notes that NOAA applied a ten-fold increase to AWQC to reach groundwater screening levels.

Further, to the extent that NPDES standards were appropriate for consideration at this site, then the Regional Board should consider standards from NPDES permits for discharges to the POLA. There is no evidence that the Regional Board evaluated such permits or attempted to make consistent findings. Petitioner reserves the right to review such permits and introduce evidence on this point at the hearing.

d. The anti-degradation policy does not justify the 100 µg/l TPH standard.

Without expressly basing the 100 µg/l cleanup goal for TPH on the anti-degradation policy, the Regional Board stated that its cleanup goals "will meet" this policy. (Exhibit A to Amended CAO, page 2 of 11.) This is an erroneous rationale for use of drinking water standards.

As stated in the Basin Plan, "The anti-degradation policy restricts degradation of surface or ground waters. In particular, this policy protects water bodies where existing quality is higher than is necessary for the protection of beneficial uses" (Basin Plan, pages 3-1 to 3-3).

The LAMT site is located in a highly industrialized area, and POLA has represented to the Regional Board that contaminant sources upgradient of the LAMT are impacting the site, e.g. Shell and the Fries Avenue pipeline ruptures, as well as the ongoing MTBE issues which are unrelated to site use. (See Exhibit 4.) With these upgradient sources degrading water quality in the area, this means that existing water quality at the site itself is not “higher than necessary to protect beneficial uses.” Furthermore, the harbor waters are subject to heavy cargo and other commercial and recreational vessel traffic, and the Regional Board made no finding that the water quality in the Port of Los Angeles is higher than necessary to protect beneficial uses.

With the background impairment of both the site and adjacent harbor water, this is not a location where existing quality is higher than necessary for the protection of beneficial uses. The Regional Board made no showing that the anti-degradation policy would be triggered if cleanup levels exceeded 100 µg/l for TPH.

e. **The Regional Board failed to provide for the background concentrations of TPH and MTBE impacting the site.**

As noted above, evidence which POLA has submitted to the Regional Board indicates that MTBE, which was not used or stored on the site, and fresh petroleum products from offsite sources, are impacting the site. Petitioner should not be held accountable for those contaminants.

The issue of whether a public agency can require a discharger to remove wastes not attributable to the discharger has been addressed both in the federal and California courts. In both forums, the courts have rejected or severely limited such efforts by the agencies.

In *Appalachian Power Co. v. Train*, 545 F.2d 1351 (4th Cir. 1976), EPA attempted to impose chemical effluent limitations on power companies, which did not take into consideration the levels of pollutants in the plants’ intake water. The court rejected these proposed effluent limits: “It is Industry’s position that EPA has no

jurisdiction under the [Clean Water Act] to require the removal of any pollutants which enter a plant through its intake stream. We agree.” (*Appalachian Power* at 1377.)

The California Court of Appeals addressed a similar issue in *So. Cal. Edison Co. v. State Water Resources Control Board*, 116 Cal.App.3d 751 (1981). There, the State Board attempted to require a power company to remove pollutants entering its generating station through its water intake valve, rather than regulating only those pollutants the plant added to the water. The court first stated that *Appalachian Power* should not preclude imposition of gross discharge limits “where transportation of pollutants from intake to outflow actually adversely affects the quality of the receiving waters. For instance, a power plant intaking water close to shore and expelling it unaltered in less polluted waters offshore may well deleteriously affect marine life.” (*So. Cal. Edison Co.* at 758.) Therefore, the court stated that under certain circumstances the State Board does have the power to impose gross limitations on pollutant discharge, where necessary to safeguard the quality of the receiving water. The court gave an example: “Where a plant receives polluted water near a sewage outfall and discharges into an environmentally sensitive area.” (*Id.*)

However, the court went on to reject the State Board’s attempt to impose such limitations because the Board had not enunciated the reasons that such limitations on discharge were necessary to safeguard the quality of the receiving water, and the Board’s order was not supported by evidence showing the more stringent limitations were necessary.

This issue has arisen in another reported California decision: *Lake Madrone Water District v. State Water Resources Control Board*, 209 Cal.App.3d 163 (1989). In that case, the operator of a dam sought to revoke the State Board’s order requiring the operator to refrain from flushing sediment into a creek. The dam operator contended that the sediment entered the reservoir from upstream, so that the dam was a mere conduit through which the sediment passed. The court held that although the dam operator was

not responsible for the presence of the sediment in the stream in the first place, it could be ordered to abate the operations which concentrated the sediment before releasing it downstream:

Contrary to the District's suggestions, its dam is not a mere conduit through which a substance dangerous to aquatic life (e.g. a chemical) passes. Rather the dam receives a natural substance – silt – which, in its unconcentrated form in a creek is innocuous and, by furnishing a man-made artificial location for its concentration, changes the innocuous substance into one that is deadly to aquatic life.

(Lake Madrone at 169, 170.)

These decisions have specified the only situations in which the California courts have found it acceptable to require a discharger to treat wastes not attributable to the discharger: (1) where a discharger pumps water from a degraded area and discharges to an environmentally sensitive area; and (2) where a discharger concentrates waste which in its unconcentrated form is innocuous, and changes the innocuous substance to one that is more dangerous. Neither of these two situations applies at the site. For this reason, the Regional Board may not require Petitioner to remediate non-site compounds which are part of an offsite problem and are unrelated to the operations on the site.

f. Petitioner proposed a more reasonable water quality goal for TPH.

Given that protection of the marine habitat is the primary driver for establishing groundwater cleanup goals, Petitioner had proposed more reasonable and appropriate water quality goals previously established specifically for the protection of a marine habitat. In fact, both Petitioner and Kinder Morgan had proposed cleanup goals established in Final Board Orders from the San Francisco Bay Regional Water Quality Control Board.

In its September 10, 2009 letter to the Regional Board, Petitioner proposed cleanup goals based on screening levels developed for use at the San Francisco Airport under Regional Board Order No. 99-045. From that Board Order, the TPH screening

levels in groundwater for the protection of saltwater (or marine) aquatic life are: TPH as gasoline 3,700 µg/l; TPH as diesel 640 µg/l; and TPH as motor oil 640 µg/l

The San Francisco Bay Regional Board adopted these TPH cleanup levels as final Tier I cleanup goals for the saltwater ecological protection zone, based on site-specific studies of TPH toxicity on aquatic organisms. The TPH cleanup goals are such that groundwater is protective of the beneficial uses of the Bay, so that groundwater does not pose a significant risk to aquatic species or people using the Bay. Petitioner recognizes that these levels were developed based on bioassays using fresh gasoline and jet fuel, and therefore may be lower than necessary to be protective at LAMT, where the compounds which were released on-site are primarily heavily weathered products.

The Regional Board has stated that the values from the San Francisco Airport site are not appropriate for use at the LAMT site. (Exhibit A to Amended CAO, pages 5-7 of 11.) However, the LAMT site is far more comparable to the San Francisco Airport site than the LAMT site is to a drinking water body. We also note that site-specific bioassays have been completed in the San Francisco Bay to develop TPH cleanup goals in a marine environment at the Point Molate and Presidio sites, as discussed by Kinder Morgan in its concurrently filed petition. In reviewing cleanup goals for all three sites (San Francisco Airport, Point Molate, and Presidio), a range of TPH cleanup goals (1,200 µg/l to 3,700 µg/l for TPH as gasoline and 640 µg/l to 2,200 µg/l for TPH as diesel) provide a basis to conclude that protection of a marine/estuarine water body can be accomplished using cleanup goals which are above drinking water standards.

3. **The Cleanup Goals For Hydrocarbons In Soil Are Inappropriately Based On Screening Levels Derived From Drinking Water Criteria And Should Be Based On Site-Specific Soil Cleanup Goals For TPH To Protect Beneficial Uses.**

The Regional Board relied on the November 2007 (Revised May 2008) Interim Final ESL document (hereafter “ESL Document”) to arrive at proposed soil cleanup goals

of 180 mg/kg for TPH as gasoline (C6-C12 purgeable) and diesel (C9-C25 extractable), and 2,500 mg/kg motor oil (C24-C40 extractable). There are several problems with use of the ESL document to derive the clean-up standard.

First, the ESL document states, "The Tier I ESLs presented in the lookup tables are NOT regulatory cleanup standards" (ESL Document, page ES-2). The document further states, "Use of ESLs as final cleanup levels for petroleum-related compounds that are known to be biodegradable is conservative. This is particularly true for leaching-based soil screening levels for TPH and petroleum-related compounds." (ESL Document, pages 8-1.) So it is inappropriate to impose ESL based levels as cleanup standards at this site in the first place.

Additionally, as stated in the ESL Document, with regard to biodegradable compounds such as TPH, "if long-term monitoring demonstrates that actual impacts to groundwater are insignificant, then less stringent soil (and groundwater) screening levels may be warranted." (ESL Document, pages 1-11). In this context, "insignificant" groundwater impacts are those impacts that do not affect the established beneficial uses of groundwater and surface water.

Several lines of evidence based on documents submitted to the Regional Board support the assertion that impacts to groundwater and harbor water are insignificant. Ongoing interim remediation for free product recovery has greatly reduced the lateral extent and thickness of the free product plume. (December 2009 Free Product Removal Report, Tetra Tech January 15, 2010.) Furthermore, ongoing groundwater monitoring has shown that the dissolved phase petroleum hydrocarbon plume has been stabilized.² The graphs presented as Exhibit 5 show time series trends of TPH as gasoline and diesel

² Time series trends of dissolved phase petroleum hydrocarbons in groundwater samples collected from groundwater monitoring wells located within the LAMT site show a pattern of stable to decreasing concentrations. These trends strongly suggest that petroleum hydrocarbons in soil and groundwater have reached a state of equilibrium under the present site conditions and that biodegradation of the petroleum hydrocarbons is occurring.

from 2005 through 2008³ for several monitoring wells located within the central portion of the dissolved-phase petroleum hydrocarbon plume beneath the LAMT site. These graphs depict an overall decreasing trend in dissolved-phase petroleum hydrocarbon concentrations. Finally, the sediment and seawater study submitted to the Regional Board (*Final Technical Report, Sediment and Seawater Investigation, Former Los Angeles Marine Terminal, Berths 171-173, Wilmington CA, December 15, 2008, AMEC*) indicates that dissolved-phase petroleum hydrocarbons were not detected in seawater samples collected along the bulkhead at the site, including within the boomed area where sheen previously had been observed.

The Regional Board agreed with the findings and conclusions of the sediment and seawater study, stating that remediation of sediment at this time is not necessary, and that the remedial action plan for sediment/seawater is no longer required. (Regional Board Letter, February 13, 2009.) Given less than significant impacts to beneficial use, the Regional Board's cleanup goals for petroleum hydrocarbons in soil, which are derived from the ESL Document, are inappropriate and unnecessarily restrictive.

Additionally, Regional Board staff derived the soil cleanup goals for TPH from Table B-2 of the ESL Document (shallow soil screening levels, commercial industrial land use, groundwater is not a current or potential drinking water). As noted in Table B-2, the soil screening levels for TPH are based on groundwater protection (soil leaching). The soil leaching values are intended to protect non-drinking water resources (and marine aquatic habitats) to a level of 210 µg/l for TPH as gasoline, diesel, and motor oil. Applying these soil cleanup goals to the site is in error because the marine aquatic

³ Tetra Tech changed analytical laboratories for the quarterly monitoring program starting in first quarter 2009, resulting in a significant increase in reported TPH as diesel and motor oil concentrations in many wells. The increase is related to the change in laboratories and laboratory procedures, as well as a change in specific carbon ranges used for the TPH as gasoline, diesel and motor oil analyses. ("Quarterly Groundwater Monitoring Report, First Quarter 2009 for Former GATX Terminals Port of Los Angeles, Berths 171-173, Wilmington, CA", April 15, 2009, Tetra Tech, Inc., page 26.) Therefore, the increased concentrations in 2009 are a result of changes to the laboratory protocols and not an actual change in groundwater conditions. The 2009 concentrations are considered a new baseline for trend analysis.

habitat goal of 210 µg/l TPH is based on a drinking water goal. (See ESL Document Table F-4a, page 3.)

With this analysis, the Regional Board Staff has defaulted to a soil cleanup goal intended to protect a drinking water standard. As recognized by the Regional Board, neither the groundwater beneath the LAMT site nor the surface water of the East Basin Channel are considered drinking water sources. Therefore, the proposed soil cleanup goals are improper and overly stringent for the protection of a marine habitat.

As stated in its September 10, 2009 Letter to the Water Board, Petitioner continues to support the implementation of a remedial alternative which includes soil excavation to remove site-specific levels of petroleum hydrocarbon-impacted soil that may contribute to the occurrence of free product, and which may impact the beneficial uses of groundwater and surface water. Removal of soil that may contribute to a free product plume will not only mitigate the potential for future sheen or free product on the groundwater surface, but will also further accelerate the already observed attenuation of the dissolved phase petroleum hydrocarbon plume beneath the site. Based on this approach, cleanup goals for soil could be developed based on site-specific data to determine the leaching potential for soil contaminants to groundwater or by published hypothetical leaching values. For comparison purposes, as an example of published values, the ESL Document establishes a ceiling level of 5,000 mg/kg TPH as gasoline and diesel as the value intended to prevent the presence of potentially mobile free product in soil. (ESL Document, pages 8-6, Table I-4.) The order of magnitude of this ceiling level concentration is consistent with the Regional Board's "low-risk" closure guidance for petroleum hydrocarbons in soil above a non-drinking water source, which presents maximum soil screening levels of 1,000 mg/kg TPH as gasoline, 10,000 mg/kg TPH as diesel, and 50,000 mg/kg TPH as motor oil (LA Regional Board, UST Closure Criteria (Draft) (April 2004, rev Sept. 2006)). We note that in Revised Cleanup and Abatement Order R4-2008-0006, the Regional Board proposed that soil cleanup levels set forth in

the Regional Board's "Interim Site Assessment and Cleanup Guide Book, May 1996" be considered when establishing preliminary soil cleanup goals. The soil cleanup goals presented in the May 1996 document are identical to those presented in the 2006 low risk closure document.⁴

Petitioner supports the view that the development of site-specific soil cleanup goals for TPH based on the above-described approaches will achieve the objective of protecting the beneficial uses and groundwater and surface water.

In the event that the State Board does not agree with the approaches to soil cleanup goals described above, at a minimum, the Board should evaluate the use of site-specific soil cleanup goals as shown in Adopted Regional Board Order No. 99-045. The TPH soil cleanup goals presented in that order were developed based on site-specific testing for the protection of groundwater and are consistent with the groundwater cleanup goals described above, which are protective of marine aquatic habitats. TPH soil screening levels calculated for the protection of surface water habitats, from Board Order 99-045, are TPH as gasoline of 629 mg/kg and TPH as diesel of 518 mg/kg. Again, the Petitioner recognizes that these soil concentrations were developed based on bioassays using fresh gasoline and fresh jet fuel, and therefore may be lower than necessary to be protective at LAMT, where the site related compounds are predominately heavily weathered products.

Finally, it is important to note that to achieve the amended CAO TPH cleanup goals of 180 mg/kg for TPH as gasoline and diesel in soil and 100 ug/l for groundwater would require a significant technical and economic undertaking that would necessitate the excavation and disposal of a large volume of soil (almost the entire site would be excavated), which can not be justified given the stated beneficial uses of groundwater and the adjacent harbor waters. Such very conservative cleanup standards are likely to set a

⁴ Regional Board staff, without explanation, rejected the "Interim Site Assessment and Cleanup Guide Book, May 1996" in a letter dated August 26, 2008.

precedent which could cause significant regional and state-wide implications. In many of its UST case closure evaluations (*see, e.g.*, State Water Resources Control Board Notice of Opportunity for Public Comment on Underground Storage Tank Case Closure for Bethel Island Municipal Improvement District at 3085 Stone Road, Bethel Island, and Draft UST Case Closure Summary, February 24, 2010; Letter re: State Water Resources Control Board Notification of Public Hearing: Underground Storage tank (UST) Cleanup Fund (FUND), Meeting Notification for Case Closure Recommendation, Pursuant to Health and Safety Code Section 25299.39.2: Claim Number: 9987; Site Address: 14091 Lake Shore Drive, Clearlake CA, and Draft UST Case Closure Summary, December 7, 2009), the State Water Resources Control Board has articulated this concern about the adverse ramifications of overly conservative standards. The State Board further observed that if complete removal of detectable traces of petroleum constituents becomes the standard for UST corrective actions, the statewide technical and economic implications would be enormous and could greatly impact already limited landfill space.

For all of the reasons above, the Regional Board was in error in the selection of the soil clean up goal for TPH.

4. Chevron Is Not A Responsible Party.

Chevron Corporation ("Chevron") never owned, leased or occupied the site. Counsel for Chevron so advised the Regional Board of this fact in a letter to Ms. Thizar Tintut-Williams, dated September 13, 2006. (Exhibit 6.) The Regional Board has not provided any basis whatsoever for listing Chevron on the Amended CAO.

E. THE MANNER IN WHICH THE PETITIONER IS AGGRIEVED.

The cleanup goals referenced above are unreasonable for the reasons stated in this Petition, are not necessary to protect the specified beneficial uses, do not allow for use of an alternative remedial approach, are contrary to legal requirements, and are not supported by evidence in the administrative record. Furthermore, the Amended CAO imposes a deadline of March 29, 2010 for submission of a revised RAP reflecting the

new cleanup goals. This requirement either will impose considerable costs on the Petitioner to prepare a RAP based on erroneous goals, or cause potential exposure to penalties imposed for non-compliance with the time schedule. Finally, the issuance of these requirements to Chevron Corporation is erroneous.

F. THE SPECIFIC ACTION BY THE STATE OR THE REGIONAL BOARD THAT PETITIONER REQUESTS.

Petitioner requests that the State Board rescind the Cleanup Goals for Soil and Groundwater contained in the Amended CAO, and direct the Regional Board to reissue the CAO consistent with the points in this Petition. Petitioner also requests a Stay of the March 29, 2010 deadline for submitting a new RAP in the Amended CAO. Petitioner also requests that the Regional Board repeal its order as against Chevron, which is not a responsible party, as explained above.

G. A STATEMENT OF POINTS AND AUTHORITIES IN SUPPORT OF LEGAL ISSUES RAISED IN THE PETITION.

Petitioner's initial statement of points and authorities is set forth herein above. Petitioner reserves the right to supplement this statement and file additional points and authorities at a future date upon receipt and review of the administrative record.

H. STATEMENT THAT THE PETITION HAS BEEN SENT TO THE REGIONAL BOARD AND TO THE DISCHARGER, IF NOT THE PETITIONER.

A copy of this Petition has been sent to the Regional Board and to the other dischargers named in the Amended CAO.

I. STATEMENT THAT THE SUBSTANTIVE ISSUES OR OBJECTIONS RAISED IN THE PETITION WERE RAISED BEFORE THE REGIONAL BOARD, OR AN EXPLANATION OF WHY PETITIONER WAS NOT REQUIRED OR UNABLE TO RAISE THESE ISSUES.

Petitioner has had correspondence and discussions with the Regional Board regarding appropriate cleanup goals for the site. Attachment II to Exhibit A to the Amended CAO contains some of Petitioner's prior comments and the Regional Board's responses, and Petitioner incorporates its prior comments here. However, Petitioner has not had the opportunity to raise all issues with the Regional Board because the Board changed the cleanup goals in the Amended CAO based on a staff memorandum dated January 19, 2010, to which Petitioner had no opportunity to respond before the Amended CAO was issued. Any issues not previously raised are based on and relate to the new requirements contained in the Amended CAO. Further, the Regional Board did not consider the Amended CAO at a public hearing.

Regarding the issue of Chevron being misidentified as a responsible party in this matter, as noted above, the Regional Board was made aware of this in several communications, including a letter from Chevron's counsel to Ms. Thizar Tintut-Williams of the Regional Board, dated September 13, 2006.

II. THE PETITIONER REQUESTS A HEARING ON THE AMENDED CAO.

Chevron Corporation also requests a hearing on the Amended CAO. In support of this request, it makes the following points:

- (1) A summary of the arguments that Petitioner wishes to make at the hearing is provided in the Petition above.
- (2) A summary of the testimony or evidence the petitioner wishes to introduce is provided in the Petition above, including all documents referenced in this Petition and all documents referenced in Kinder Morgan's Petition,

although Petitioner may supplement the testimony or evidence at the hearing.

- (3) The explanation of why the evidence or arguments were not presented to the Regional Board is provided in Section I of the Petition, above.
- (4) At this point, Petitioner does not wish to introduce new evidence, other than all documents referenced in this Petition and all documents referenced in Kinder Morgan's Petition, although it may wish to supplement its presentation of evidence once it sees the full record.
- (5) Petitioner does not claim at this point that the Regional Board improperly excluded evidence.

III. REQUEST FOR STAY ORDER.

Petitioner requests a stay of the cleanup goals and other requirements set forth in the Amended CAO pending resolution of the issues raised in this Petition. This stay request is based on the attached declaration of Joseph Muzzio that demonstrates (1) substantial harm to the Petitioner or the public interest if a stay is not granted; (2) a lack of substantial harm to other interested persons and to the public interest if a stay is granted; and (3) substantial questions of fact or law regarding the disputed action.

A. LEGAL GROUNDS FOR A STAY.

Under section 2053 of the State Board's regulations (23 CCR § 2053), a stay of the effect of an order shall be granted if the petitioner shows:

- (1) Substantial harm to petitioner or to the public interest if a stay is not granted;
- (2) A lack of substantial harm to other interested parties and to the public if a stay is granted; and
- (3) Substantial questions of fact or law regarding the disputed action exist.

These requirements are met in this case.

1. Petitioner Will Suffer Substantial Harm if a Stay Is Not Granted.

Petitioner challenges the Amended CAO on the grounds that it improperly uses drinking water criteria for TPH in groundwater, uses erroneous soil cleanup levels, and because Petitioner is not properly named on the order.

The Amended CAO requires the submittal of a Revised Remedial Action Plan (“revised RAP”) to the Regional Board on March 29, 2010, based on the contested cleanup goals. If the parties are required to submit and implement a revised RAP based on incorrect cleanup standards, Petitioner and other parties will be expending significant financial resources estimated at greater than \$15,000,000 with the new RAP, which then should be overturned when this Board acts. This would make the expenditure of money, time and resources a costly exercise in futility. However, if the parties decline to expend money, time and resources in an effort to produce a revised RAP based on these incorrect cleanup standards, they become exposed to significant daily penalties for non-compliance with the Amended CAO. If a stay is not granted, the parties therefore would be in a Catch-22: substantial and likely worthless expenditures on a revised RAP based on incorrect standards, or substantial monetary penalties for failure to produce the Revised RAP. A stay until a determination is made as to the cleanup goals would solve this problem and save Petitioner from significant and substantial monetary harm.

Additionally, the public will be harmed without a stay because the limited resources of the Regional Board will be consumed in review of a revised RAP that is premised on incorrect goals. That review should occur once the cleanup goals are corrected and a proper RAP can be submitted.

Furthermore, if a stay is not granted and the issues surrounding cleanup goals are not resolved by the time the cleanup standards are implemented, the parties will be faced with yet another Catch-22. They will be required to expend substantial costs for implementation of excessive soil removal and groundwater treatment measures where the

cleanup goals are inappropriately high, or again be exposed to substantial penalties for non-compliance with the Amended CAO.

2. The Public Will Not Be Substantially Harmed If a Stay Is Granted.

Remediation has begun at the site. The parties have been removing free product since 2005 via a recovery trench program. Additionally, floating booms are in place to ensure that no sheen can reach the harbor. There is no significant threat to the marine environment or to public health from the site. (See Final Technical Report, Sediment and Seawater Investigation, Former Los Angeles Marine Terminal, Berths 171-173, Wilmington CA, December 15, 2008, AMEC; and Site Characterization and Risk Assessment Report, Former Los Angeles Marine Terminal, Berths 171-173, Wilmington CA, October 2008, prepared by AMEC Geomatrix, on behalf of Kinder Morgan, Conoco Phillips, and Texaco, at page 53.) The requested stay would simply enable these efforts to proceed pending a decision on the merits.

3. The Petition Raises Substantial Questions of Law and Fact.

As discussed in more detail in the Petition, there are significant questions being posed in this case as to whether the cleanup goals set by the Regional Board are improper and defective and whether Chevron is a responsible party. Petitioner disputes the standards on which the Regional Board relied in issuing its cleanup order, and contests that it is a responsible party in this case. There are significant issues of fact and law that are sufficient to warrant the granting of a stay.

Dated: March 1, 2010.

Respectfully Submitted by

PILLSBURY WINTHROP SHAW PITTMAN LLP
CHRISTOPHER J. MCNEVIN #109603
JULIA A. MILLER #253869
725 South Figueroa Street, Suite 2800
Los Angeles, CA 90017-5406

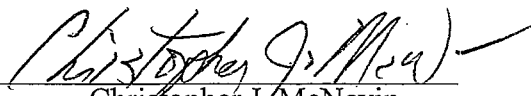
By: 
Christopher J. McNevin
Attorneys for Petitioner Chevron Corporation

EXHIBIT 1

**STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION**

**Amendment to:
Revised Cleanup & Abatement Order No. R4-2008-0006 (Issued April 9, 2008)
Requiring
Kinder Morgan Inc., Chevron Corporation, ConocoPhillips, and the City of Los Angeles,
Harbor Department (a.k.a. Port of Los Angeles)
To
Assess, Cleanup and Abate the Effects of Contaminants
Discharged to Soil, Groundwater, and Seawater
(File No. 90-006)**

By and through its Executive Officer, the California Regional Water Quality Control Board, Los Angeles Region (Regional Board) herein finds as follows:

1. On April 9, 2008, revised Cleanup and Abatement Order No. R4-2008-0006 (Order) was issued to Kinder Morgan Inc., Chevron Corporation, ConocoPhillips, and the City of Los Angeles Harbor Department (a.k.a. Port of Los Angeles) (collectively Responsible Parties), directing them an assessment and cleanup of the former GATX Los Angeles Marine Terminal (Site).
2. In pertinent part, the Order required the Responsible Parties to "work together with the Port of Los Angeles, so that submittals are coordinated in order to avoid multiple submissions or proposals for assessment, monitoring, and/or remediation of the site." (Order, p. 6, ¶1.) It also required the Responsible Parties to assess, cleanup, and abate the effects of contamination discharged at the Site, to soil, groundwater, and seawater. Among other things, the Order set deadlines to submit and implement a Remedial Action Plan (RAP). While the Order did not set numerical cleanup goals for the Site, it did identify certain information to be considered by the Responsible Parties when establishing Preliminary Cleanup Goals for the Site.
3. Over the next six months, the Responsible Parties were unable to agree amongst themselves and the Port of Los Angeles on proposed Preliminary Cleanup Goals. They so advised the Regional Board in writing on September 26, 2008, and requested that the Regional Board determine the cleanup goals for the Site.
4. Therefore, on November 14, 2008, the Regional Board issued a letter regarding cleanup goals for the soil and groundwater at the Site. The letter included a table with specific cleanup goals identified for 71 constituents, and it was accompanied by a fact sheet explaining how the goals were derived. The letter also summarized the Responsible Parties' existing obligations under the Order with respect to the cleanup goals.
5. On December 15, 2008 Chevron Corporation, Kinder Morgan Inc., and Kinder Morgan Energy Partners, L.P., filed a petition with the State Water Resources Control Board (State Board), pursuant to Water Code section 13320, purporting to challenge the November 14, 2008 letter respecting cleanup goals. On December 18, 2008, the State Board issued a letter rejecting the petition on the basis that the November 14, 2008 letter constituted neither new nor final agency action by the Regional Board, and therefore, was not subject to review under section 13320.

6. Also on December 18, 2008, Kinder Morgan and Texaco Inc. requested an evidentiary hearing before the Regional Board to:
 - a. "Present information provided to the Regional Water Board but not properly recognized or adequately considered by the Regional Water Board in its development of the Clean-up Goals,
 - b. "Present Clean-up Goals and remediation approaches that are alternatives to those specified in the November 14, 2008 letter and similarly protect beneficial use of surface water."

(Dec. 15, 2008 Letter from AMEC Geomatrix, Inc. to Tracy Egoscue.)

7. On January 30, 2009, the Executive Officer granted the request for a hearing, and invited the parties to present any information they believed was not properly recognized or adequately considered by the Regional Board in its development of the cleanup goals set forth in the November 14, 2008 letter. Parties supportive of the cleanup goals were likewise invited to submit additional relevant information that had not yet been included in the administrative record. All parties were invited to present any alternative cleanup goals and remediation approaches that they believed were alternatives to those specified, that similarly protect beneficial uses of surface water. All submittals were required to be delivered to the Regional Board by February 27, 2009.
8. The Regional Board received timely submittals on behalf of Kinder Morgan, Texaco Inc., and the Port of Los Angeles on or about February 27, 2009.
9. On August 17, 2009, technical staff submitted a memorandum to the Executive Officer, entitled *Final Recommendation for Site-Specific Soil and Groundwater Cleanup Goals*. On September 15, 2009, the Executive Officer determined that the responses to comments submitted with the August 19, 2009 memorandum were inadequate to evaluate the technical staff's recommendations on the cleanup goals, and directed staff to submit a revised response to comments. She also directed that if in generating the revised responses, staff determined that a modified proposal was warranted, staff should make such a proposal.
10. On January 19, 2010, technical staff submitted to the Executive Officer a memorandum bearing the subject line: "Revised Responses to Stakeholder's (sic) Comments[:] Former GATX Los Angeles Marine Terminal (LAMT), Port of Los Angeles, Berths 171 through 173, Wilmington, California (Cleanup and Abatement Order No. R4-2008-006, Site ID No. 2040107, Site Cleanup Program No. 621A)." That memorandum contains revised responses to comments, responses to additional submittals by the Responsible Parties that were submitted in response to the August 19, 2009 memorandum, and a revised list of proposed cleanup goals. The memorandum (including Attachments I through III thereof) is attached hereto as **Exhibit A**, and incorporated herein by reference.¹
11. Upon review of the various submittals of the Responsible Parties and the Port of Los Angeles, the written recommendations of technical staff contained in the above-

¹ Attachment IV to the memorandum consists of supplemental filings by Responsible Parties. Attachment IV is not included in Exhibit A, and is not part of this order. The contents of Attachment IV, however, have been considered, and are included in the administrative record of this proceeding as additional arguments of the Responsible Parties.

referenced memoranda and the responses to comments, I find that cleanup goals described in Exhibit A, Attachment I, Table 2A (Groundwater) and Table 3A (Soil) are appropriate for the reasons specified in Exhibit A.

WHEREFORE, IT IS HEREBY ORDERED that Cleanup and Abatement Order No. R4-2008-006 is amended as follows:

1. The Responsible Parties shall employ the Cleanup Goals set forth in Exhibit A, Attachment I, Table 2A for groundwater, and Exhibit A, Attachment I, Table 2B for soil, which are hereby established for the remediation that is required by the Order.
2. The order suspending the due date for the Remedial Action Plan and other deliverables, issued on February 13, 2009, is hereby vacated. The Responsible Parties shall submit a revised RAP not later than March 29, 2010. The relevant deadlines set forth in the Order are hereby revised as follows:

	REQUIREMENT	DUE DATE
1	Assessment of Petroleum Hydrocarbons, VOCs, PAHs, metals in the soil, and groundwater	
A	Assessment report of petroleum hydrocarbons, VOCs, PAHs, and metals in the soil and groundwater	August 30, 2006
B	Work plan for Marine Sediments and Seawater assessment and delineation	Work Plan was approved on September 4, 2008
C	Assessment report and Remedial Action Plan of petroleum hydrocarbons, VOCs, PAHs, and metals in the sediment/seawater	December 15, 2008 ²
2	Groundwater Monitoring	
A	Site-Wide Monitoring Report: <u>Monitoring Period</u> January to March April to June July to September October to December	Quarterly each year (The first report under this CAO is due June 15, 2008.) <u>Report Due Date</u> April 15 July 15 October 15 January 15
3	Soil Remediation	
A	Submit Revised Remedial Action Plan (RAP)	March 29, 2010
B	Implement the RAP	To be determined

² Based on the December 2008 Assessment report, Remedial Action Plan for sediment/seawater is not required (February 13, 2009).

REQUIREMENT		DUE DATE
C	Submit Progress report <u>Report Period</u> January to March April to June July to September October to December	Quarterly each year (Due date for the first report under this CAO is to be determined.) <u>Due Date</u> April 15 July 15 October 15 January 15
D	Submit Soil Remediation Completion Report	To be determined
4	Groundwater Remediation	
A	LNAPL recovery system report <u>Monitoring Period</u> January to March April to June July to September October to December	Quarterly each year (The first report under this CAO is due July 15, 2008) <u>Report Due Date</u> April 15 July 15 October 15 January 15
B	Submit Revised Remedial Action Plan (RAP)	March 29, 2010
C	Implement the Groundwater Remediation Systems	To be determined
D	Submit Quarterly Remediation Progress Report. <u>Report Period</u> January to March April to June July to September October to December	Quarterly each year (Due date for the first report under this CAO is to be determined.) <u>Due Date</u> April 15 July 15 October 15 January 15
E	Submit Groundwater Remediation Completion Report	To be determined

This order shall constitute final agency action. Any person aggrieved by this action of the Regional Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must *receive* the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday,

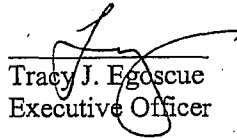
Former GATX Marine Terminal
Port of Los Angeles, Berths 171 through 173, Wilmington, California
Cleanup and Abatement Order No. R4-2008-0006 (revision1)
Page 5

File No. 90-006
SLIC No. 0621A

Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at http://www.waterboards.ca.gov/public_notices/petitions/water_quality or will be provided upon request.

Technical staff is hereby directed to circulate this order forthwith to each Responsible Party and interested person.

IT IS SO ORDERED.

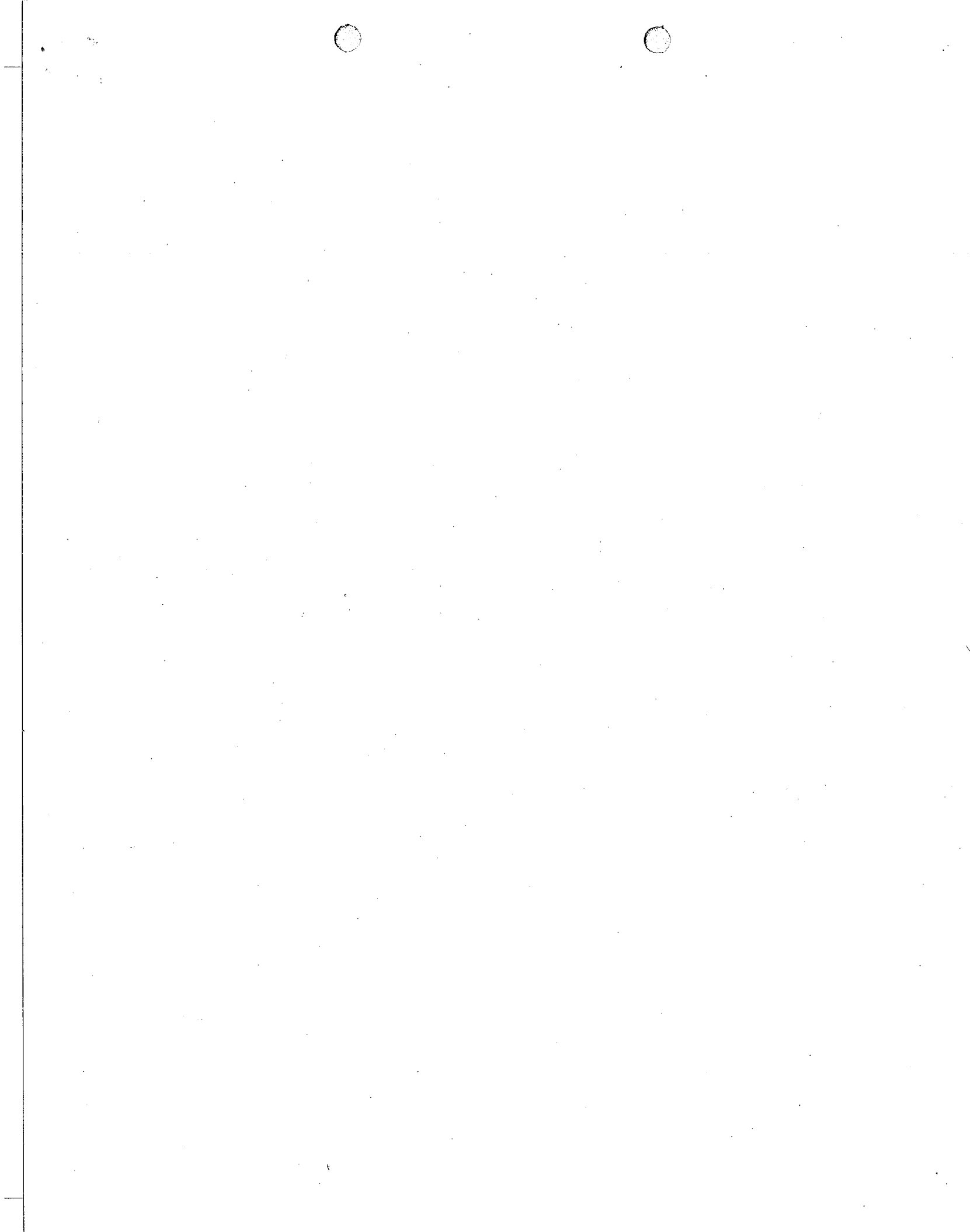

Tracy J. Egoscue
Executive Officer

Date: January 28, 2010

EXHIBIT A

Revised Responses to Stakeholder's (sic) Comments[:] Former
GATX Los Angeles Marine Terminal (LAMT), Port of Los
Angeles, Berths 171 through 173, Wilmington, California
(Cleanup and Abatement Order No. R4-2008-006, Site ID No.
2040107, Site Cleanup Program No. 621A)

Attachments I, II, and III





California Regional Water Quality Control Board

Los Angeles Region



Linda S. Adams
Cal/EPA Secretary

320 W. 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address: <http://www.waterboards.ca.gov/losangeles>

Arnold Schwarzenegger
Governor

MEMORANDUM

To: Tracy J. Egoscue, Executive Officer

cc: List (see page 11)

From: Samuel Unger, Assistant Executive Officer/Principal Water Resource Control Engineer *SU*

Enclosures: See Page 11

Date: January 19, 2010

Subject: Revised Responses to Stakeholder's Comments
Former GATX Los Angeles Marine Terminal (LAMT), Port of Los Angeles, Berths 171 through 173, Wilmington, California (Cleanup and Abatement Order No. R4-2008-006, Site ID No. 2040107, Site Cleanup Program No. 621A)

On August 17, 2009, Regional Board staff (staff) submitted a memorandum, *Final Staff Recommendation for Site-Specific Soil and Groundwater Cleanup Goals* to you for the above-referenced site. The memorandum includes staff's recommendations for the site-specific soil and groundwater cleanup goals that were developed to protect human health, water resources, and aquatic habitats.

On September 15, 2009, you determined that the staff responses to stakeholder's comments, submitted with the August 17, 2009, memorandum, were not adequate to evaluate the staff's recommendations on the cleanup goals. This memorandum is a response to your electronic mail, dated September 15, 2009, directing the staff to submit a revised response to stakeholder's comments.

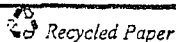
Staff also received the following comments (Attachment IV) from the responsible parties in regards to the August 17, 2009 Memorandum. Staff's responses to these comments are enclosed in Attachment II.

1. *Final Staff Recommendations for Site Specific Soil and Groundwater Cleanup Goals*, dated September 10, 2009, submitted by SAIC on behalf of Texaco Inc,
2. *Response to Proposed Cleanup Goals dated August 17, 2009*, dated September 11, 2009, submitted by AMEC Geomatrix on behalf of Kinder Morgan, and
3. *Proposed Revised Soil and Groundwater Cleanup Goals*, dated September 17, 2009, submitted by the Port of Los Angeles.

The following are the revised staff's comments on Kinder Morgan's approach for developing the alternative numerical cleanup goals as proposed in their *Response to Request for Additional Information Related to Cleanup Goals and Proposal for Alternative Cleanup Goals and Related Remedial Approach* (February 2009). This will replace the table under Attachment II of the August 17, 2009, memorandum.

For the purpose of consistency, staff will be referring to this site as "LAMT" in this document.

California Environmental Protection Agency



Our mission is to preserve and enhance the quality of California's water resources for the benefit of present and future generations.

Groundwater

- Kinder Morgan's Alternative Numerical Cleanup Goals Comment #1 - *When a chemical has an appropriate surface water quality criterion (i.e., from the California Toxics Rule or California Ocean Plan), we used that water quality criterion for the alternative numerical cleanup goal. When a chemical does not have an appropriate aquatic protection criterion, a cleanup goal was developed based on protection of human health under current and future site conditions. Screening levels for the protection of human health the environment were originally presented in a letter from AMEC to the Regional Board on September 26, 2008 (AMEC, 2008a) and modified in November 2008 (AMEC, 2008c). The Screening levels are based in part on calculations in the risk assessment (AMEC, 2008b).*
- Regional Board Staff's Response to Comment #1 – Regional Board staff partially agrees with Kinder Morgan's approach to develop site-specific cleanup goals, i.e., cleanup goals for the contaminants of concern (COCs) are first based on the criteria listed in the California Toxics Rule¹ (CTR) under Criterion maximum concentrations (acute) for salt water aquatic life, Criterion continuous concentrations (chronic) for salt water aquatic life, and human health protection, for consumption of aquatic organisms, whichever is most stringent.

CTR applies because the site is located on Mormon Island, a peninsula constructed of dredged material from the harbor between 1900 and the early 1920s. Groundwater at this site is saline, non-potable, not utilized for drinking water, and no longer designated for municipal beneficial use (i.e., drinking water). Beneficial uses designated by the Los Angeles Regional Water Quality Control Plan (Basin Plan) are as follows – navigation, water contact recreation, non-contact water recreation, commercial and sport fishing, estuarine habitat, marine habitat, wildlife habitat, rare, threatened, or endangered species, migration of aquatic organisms, and spawning, reproduction, and/or early development.

However, not all the COCs identified at this site have criteria in the CTR. Here is where staff disagrees with Kinder Morgan's approach to develop the remainder of the COCs based on protection of human health alone. In the case where those COCs' criteria are not found in the CTR, Regional Board staff uses an approach to protect water quality, human health, and aquatic habitats. The cleanup goals will also meet water quality objectives, beneficial uses, and the California Antidegradation Policy (Resolution No. 68-16) set forth in our Basin Plan. The cleanup goals for these COCs will also help to prevent or minimize adverse nuisance conditions, the emission of subsurface vapors to buildings, leaching and subsequent impacts to groundwater and surface water.

¹ Chapter 40, Part 131 of the Code of Federal Regulation (40CFR 131), *California Toxics Rule* (May 18, 2000) – values listed under “Criterion Maximum Concentrations, C1” and “Criterion Continuous Concentrations, C2” for salt water aquatic life, or Human Health protection for consumption for consumption of “Organisms Only, D2”.

January 19, 2010

Based on the above approach, staff determined that the next available sets of criteria that apply to this site are:

1. Most protective of human health and are site-specific risk-based screening levels calculated using cancer-risk basis for this site by Kinder Morgan, Inc.'s consultant, AMEC Geomatrix, Inc. Table 5, *Alternative Cleanup Goals for Chemicals Detected Groundwater*,
2. Taste and Odor Thresholds published by the U.S. Environmental Protection Agency,
3. California's Maximum Contaminant Levels (MCLs),
4. Action Levels (ALs) for drinking water as established by the State Department of Public Health, and
5. Most protective of human health and are site-specific risk-based screening levels calculated using non cancer-risk basis for this site by Kinder Morgan, Inc.'s consultant, AMEC Geomatrix, Inc. Table 5, *Alternative Cleanup Goals for Chemicals Detected Groundwater*.

Staff used the site-specific risk-based screening levels using cancer-risk basis for this site for those COCs' criteria are not found in the CTR.

If there are no developed or available site-specific risk-based screening levels based upon cancer-risk for this site, then the MCLs, ALs, and/or taste and odor thresholds are considered for screening the COCs. To minimize adverse nuisance conditions from some COCs, staff considered taste and odor thresholds which are narrative water quality objectives. For the COCs, based on USEPA² Drinking Water Health Advisories or Suggested No-Adverse-Response Levels, taste and odor thresholds for gasoline and diesel oil are 5 and 100 micrograms per liter ($\mu\text{g/l}$), respectively. A total petroleum hydrocarbons (TPH) cleanup goal of 100 $\mu\text{g/l}$ is selected for all fuel types as a site-specific goal, and is consistent with what is used in the Los Angeles Region General National Discharge Elimination System (NPDES) Permit Nos. CAG834001³ and CAG914001⁴ for discharges to surface water.

Lastly, site-specific risk-based screening levels based upon a noncancerous-risk scenario for this site are used for the remainder of the COCs.

² United States Environmental Protection Agency

³ *Waste Discharge Requirements for Treated Groundwater and Other Wastewater from Investigation and/or Cleanup of Petroleum Fuel-Contaminated Sites to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties*

⁴ *Waste Discharge Requirements for Discharges of Treated Groundwater from Investigation and/or Cleanup of Volatile Organic Compounds Contaminated-Sites to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties*

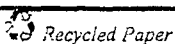
In summary, the site-specific groundwater cleanup goals for the COCs are based on the following references in the order of selection.

1. Chapter 40, Part 131 of the Code of Federal Regulation (40CFR 131), *California Toxics Rule* (May 18, 2000) – values listed under “Criterion Maximum Concentrations, C1” and “Criterion Continuous Concentrations, C2” for salt water aquatic life, or Human Health protection for consumption for consumption of “Organisms Only, D2”
2. Most protective of human health and are site-specific risk-based screening levels based upon cancer-risk scenario for this site by Kinder Morgan, Inc.'s consultant, AMEC Geomatrix, Inc. Table 5, *Alternative Cleanup Goals for Chemicals Detected Groundwater*
3. General NPDES Permits
 - a. Taste and Odor Thresholds published by the USEPA
 - b. Action Levels (ALs) for drinking water as established by the State Department of Public Health
 - c. California's Maximum Contaminant Levels (MCLs)
4. Most protective of human health and are site-specific risk-based screening levels based upon noncancerous-risk scenario for this site by Kinder Morgan, Inc.'s consultant, AMEC Geomatrix, Inc. Table 5, *Alternative Cleanup Goals for Chemicals Detected Groundwater*.

Table 1 through Table 3 are revised (Attachment I) to reflect these changes. Changes are as follows:

1. Table 1 – Site-Specific Cleanup Goals for Former GATX Los Angeles Marine Terminal replaces Table 1 in August 17, 2009 Memorandum
 2. Table 2A and Table 2B replace Table 2 in August 17, 2009 Memorandum
 - a. Table 2A – Summary of Site-Specific Groundwater Cleanup Goals
 - b. Table 2B – Comparison of Site-Specific Groundwater Cleanup Goals
 3. Table 3A and Table 3B replace Table 3 in August 17, 2009 Memorandum
 - a. Table 3A – Summary of Site-Specific Soil Cleanup Goals
 - b. Table 3B – Comparison of Site-Specific Soil Cleanup Goals
- Kinder Morgan's Alternative Numerical Cleanup Goals Comment #2 – *As proposed alternative cleanup goals for petroleum hydrocarbons in groundwater are based on criteria for salt water environments developed using Site-specific bioassays at the Presidio in San Francisco and approved by the San Francisco Bay Regional Water Quality Control Board (SF Water Board). The criteria are based on bioassays conducted by IT Corporation (1997). These criteria have been applied to at least one other Site in California (Point Molate Naval Fuel Depot for groundwater within 150 feet of the shoreline [Tetra Teach, 2001], personal communication with Dawn Zemo). Also, cleanup goals for TPHd and TPHmo should be compared with data*

California Environmental Protection Agency



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analyzed following a silica gel preparation. These cleanup goals will be protective of the beneficial use of surface water because the sediment and seawater report showed that dissolved petroleum constituents and TPH were not detected in the seawater.

Regional Board Staff's Response to Comment #2 – First, Regional Board staff disagrees that the same numerical cleanup goals applied at the Presidio⁵ should apply to the LAMT site because the petroleum hydrocarbons cleanup goals in groundwater were based on site-specific bioassays for the salt water environment at the Presidio and the bioassay samples were not collected or analyzed at LAMT. In addition, staff does not have information on marine habitats and other sensitive aquatic receptors in San Francisco Bay and Los Angeles Estuary and therefore, staff cannot conclude that they are the same.

The following is a brief description of the Presidio. The Presidio is located at the northern tip of the San Francisco Peninsula. The Presidio covers approximately 1,480 acres of rolling hills, grass covered sand dunes, rugged sea cliffs and low lying fill and beach areas. The northeastern boundary along San Francisco Bay is a low flat area developed on fill material. The northern and northwestern boundaries along the Pacific Ocean are very steep with slopes averaging fifty percent. The interior or inland portion of the Presidio, including eastern and southern boundaries, is characterized by gently rolling hills. The Presidio was the Army installation and served as a mobilization and embarkation point during several overseas conflicts, a medical debarkation center, and the coastal defense for the San Francisco Bay area. Industrial operations formerly performed at the Presidio were associated with the military's maintenance and repair of vehicles, aircraft and base facilities. The Presidio contains former landfills used by the Army for the disposal of fill soils and construction debris, and municipal waste is only to occur in significant quantities.

The Cleanup and Abatement Order Number R2-2003-0080, adopted by the San Francisco Bay Region on August 20, 2003, for Presidio requires the Dischargers to perform cleanup actions in selected areas. The selected areas under this Order includes: (1) CAP Site, large petroleum release sites where groundwater has been affected; and (2) Mini-CAP Sites, petroleum release sites requiring relatively minor additional corrective action and/or site investigation and have resulted in no impact to groundwater. In addition, the cleanup levels in the Order are referenced in the December 1997 "Report of Petroleum Hydrocarbon Bioassays and Point-of Compliance Concentration Determinations Saltwater Ecological Protection Zone, Presidio of San Francisco, San Francisco, California". The groundwater cleanup goals for petroleum hydrocarbons at the Presidio are 1,200 micrograms per liter ($\mu\text{g/l}$) for TPHg⁶, 2,200 $\mu\text{g/l}$ for TPHd⁷, and 2,200 $\mu\text{g/l}$ for TPHmo⁸. The Presidio's site-specific conditions are not appropriate to implement at LAMT because site-specific bioassay data are not available, groundwater beneath the site has been impacted, free product still remains at LAMT, and site-derived contaminants are being discharged to the ocean.

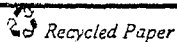
⁵ Presidio of San Francisco (Presidio), a former Department of the Army Base

⁶ TPHg = Total petroleum hydrocarbons as gasoline

⁷ TPHd = Total petroleum hydrocarbons as diesel

⁸ TPHmo = Total petroleum hydrocarbons as motor oil

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Regarding the application of the Presidio criteria to Point Molate Naval Fuel Depot (Point Molate), Point Molate is a former Navy facility located adjacent to San Francisco Bay (Bay) in Richmond, Contra Costa County. The Point Molate encompasses approximately 413 acres with a topography varying from flat lying, reclaimed tidal marsh along the bay front to steep hills rising to an elevation of more than 500 feet. Approximately 100 acres of the facility are submerged lands. Twenty underground tanks with an average diameter of about 100 feet and a depth of 20 feet, consisting of a single concrete vault were built into the hillside and covered by fill. Point Molate also operated a sanitary sewer system and a water fuel reclamation/treatment system using three treatment ponds for the disposal of waste water from the various activities. Point Molate overlies predominantly bedrock which is overlain by a thick mantle of coluvium (loose deposits of slope debris). Groundwater primarily flows through this mantle of coluvium and discharges to the Bay. A relatively minor amount of groundwater flows through the bedrock; therefore, the majority of the pollutant transport occurs in this coluvium mantle.

Kinder Morgan incorrectly stated that the same groundwater cleanup goals for petroleum hydrocarbons at the Presidio are being applied to Point Molate within 150 feet of the shoreline. Upon review of the Order No. R2-2008-0095, Regional Board staff finds that the action levels used at the Presidio, as noted by Kinder Morgan, do not apply at Point Molate. Order No. R2-2008-0095, adopted by the San Francisco Bay Region Board on November 12, 2008 for Point Molate, finds that the Fuel Product Action Level⁹ report addresses the cleanup goals for pollutants beneath the ground surface but above the groundwater table and does not address cleanup levels of residual contamination at or below the groundwater table. The Order R2-2008-0095 requires dischargers to establish the cleanup levels for groundwater by March 30, 2009. However, the San Francisco Bay Regional Board staff informed the Los Angeles Regional Board staff that the cleanup levels for groundwater have not been submitted and the due date will be extended. This means that Point Molate groundwater cleanup goals have not yet been determined by the San Francisco Bay Regional Board.

Second, Kinder Morgan proposed to use a silica gel method to cleanup TPHd and TPHmo samples prior to performing the analysis. However, Regional Board staff disagrees that silica gel cleanup is appropriate for TPHd and TPHmo samples for the following reasons.

Currently, all TPH samples are analyzed using EPA Method 8015C. The Method 8015C (Method) is applicable to the analysis of petroleum hydrocarbons and various nonhalogenated volatile organic compounds and semivolatile organic compounds. The Method states that petroleum hydrocarbons include gasoline-range organics (GROs) and diesel range-organics (DROs). GROs correspond to the range of alkanes from C₆ to C₁₀ and have a boiling point range of approximately 60 degrees Celsius (°C) to 170 °C; and DROs correspond to the range of alkanes from C₁₀ to C₂₈ and have a boiling point range of approximately 170 °C to 430 °C. The identification of specific fuel types may be complicated by environmental processes such as evaporation, biodegradation, or when more than one fuel type is present. GROs and DROs are distinguished during analysis on the basis of the ranges of their retention times using gas chromatography (with photoionization detector (PID) and flame ionization detector (FID)) for

⁹ Final Fuel Product Action Level Development Report, Naval Fuel Depot Point Molate, Richmond, CA, August 31, 2001, by Tetra Tech EMI.

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characteristic components in each type of fuel. The samples are analyzed after appropriate solvent extraction methods have been performed.

The Silica Gel Cleanup (EPA Method 3630C) will be, if performed, after the solvent extraction and before using Method 8015C. The Method 3630C is recommended for cleanup of sample extracts containing polynuclear aromatic hydrocarbons, derivatized phenolic compounds, organochlorine pesticides, and PCBs as Aroclors. These compounds are not analyzed by EPA Method 8015C, and some are analyzed by using different gas chromatography columns for separations. In other words, using Method 3630C is to eliminate or minimize the non-targeted compounds from each group for better identification and accuracy. Samples collected from the former GATX site did not have identification or accuracy issues using the Method 8015C for the TPH analysis. Therefore, silica gel cleanup is not needed at this time.

Regional Board staff also believes that silica gel cleanup is not appropriate and necessary for TPH analysis at LAMT because all TPH components including breakdown products as a result of the environment or site-specific conditions shall be accounted for in measurements of TPH impact at the site. Note that the LAMT site is impacted with, at a minimum, but not limited to, TPH containing diesel range hydrocarbons, heavier fuel oils, crude oils, weathered gasoline, jet fuel, refinery intermediates, and tar-like substances. The soil and groundwater beneath the site and harbor water adjacent to the site have been impacted with TPH, TPH related compounds, and degraded TPH compounds. These TPH products are unauthorized releases to the waters of the State of California. The responsible parties are accountable for all components of TPH (including degraded TPH components that may be harmful to the environment) discharged on-site and to the waters of the State.

Lastly, Regional Board staff disagrees that Kinder Morgan's proposed alternative cleanup goals will protect the beneficial use of surface water because the sediment and seawater report showed that dissolved petroleum constituents and TPH were not detected in the seawater. Note that a sediment and seawater characterization study was conducted on samples collected adjacent to the LAMT site for determination of sediment and seawater quality, and results were reported in the *Final Technical Report, Sediment and Seawater Investigation* (December 2008). The study was based on the State's triad approach for evaluating sediment quality, i.e., integrating benthic infauna, sediment toxicity, and sediment chemistry results. The results showed that 4 of 10 sites were classified as unimpacted or likely unimpacted. However, 6 of the sites were classified as possibly impacted, but none of the sites were classified as likely impacted or clearly impacted. These findings were based on moderate to high sediment contaminant concentrations for metals and polycyclic aromatic hydrocarbons. Note that the State's triad approach does not provide guidance for evaluating sediment quality based on TPH; therefore, TPH data were not considered in the determination of the sediment quality. However, samples were collected from the sediment and seawater and analyzed for TPH. The TPH (C₆ to C₄₄) concentrations were reported from "not detected" to 470 milligrams per kilograms (mg/kg) in sediments collected from the top 5 feet, and "not detected" in seawater collected inside and outside of the boom-enclosed. The seawater sample collected beneath the area, where the oil sheen was observed, had no detection of COCs including TPH. This might be a result of a constant hydrologic movement condition in the estuary and that dilutions have occurred.

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Soil

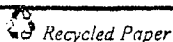
- Kinder Morgan's Alternative Numerical Cleanup Goals Comment #3 – *Numerical cleanup goals for metals in soil to protect groundwater are not proposed because groundwater is not impacted by metals despite the long-term historical interaction between soil and shallow groundwater at the Site.*
- Regional Board Staff's Response to Comment #3 – Regional Board staff disagree with Kinder Morgan that a cleanup goal for a certain metal in soil is not necessary when the metal is not detected in groundwater. Soil cleanup goals are intended to be protective of groundwater, human health, aquatic habitats, and beneficial uses. The fact that metals have not been detected in groundwater does not mean the cleanup goals for metals are not applicable for soil.

Regional Board staff determined site-specific soil and groundwater cleanup goals as follows. First, staff found compounds that were detected in soil and groundwater at the site based on the data reported over the years and the cleanup goals were developed only on these compounds. They are listed on Table 2 and Table 3 of the August 17, 2009, Memorandum and in Table 2 and Table 3 of this Memorandum. Staff then compared these cleanup goals for each compound in soil and groundwater to the site-specific analytical data. If the analytical data for each compound indicated that the concentrations were greater than these cleanup goals listed on Table 2 and Table 3, then the cleanup goal was selected for that compound. If the analytical data indicated that the concentrations were below these cleanup goals, then the cleanup goal for that compound was not selected. However, if a cleanup goal was selected for groundwater, then the cleanup goal for the soil was also listed on the Table 1 of the August 17, 2009, Memorandum, or vice versa. If groundwater is not impacted by the metals as Kinder Morgan stated, then groundwater concentrations data for metals will be below the cleanup goals and no remedial action for that metal is necessary. If the groundwater data for metals are above the cleanup goals, then remedial action is warranted and shall be taken.

- Kinder Morgan's Alternative Numerical Cleanup Goals Comment #4 – *Numerical cleanup goals for petroleum hydrocarbon constituents in soil to protect groundwater have not been developed because concentrations of most of the petroleum constituents in groundwater are below the alternative cleanup goals and concentrations of these constituents in groundwater at the Site are stable or decreasing.*
- Regional Board Staff's Response to Comment #4 – Regional Board staff disagree that a cleanup goal for a certain compound in soil to protect groundwater is not necessary because the concentration of the compound in groundwater does not exceed the proposed cleanup goal.

On-site TPH concentrations in groundwater do exceed Regional Board staff proposed cleanup goals. Staff proposed the groundwater cleanup goals for petroleum hydrocarbons as 100 µg/l for C₆-C₁₂ (purgeable), 100 µg/l for C₉-C₂₅ (extractable), and 100 µg/l for C₂₄-C₄₀ (extractable), which are different from what Kinder Morgan proposed as the alternative groundwater cleanup goals for petroleum hydrocarbons: 1,200 micrograms per liter (µg/l) for TPHg, 2,200 µg/l for TPHd, and 2,200 µg/l for TPHmo.

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Note that staff is using a similar mixture of the petroleum hydrocarbons as Kinder Morgan. Staff is using these mixtures based on the petroleum-related compounds defined in the November 2007, San Francisco Bay's *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater* (ESLs).

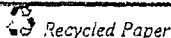
"Petroleum is a complex mixture of hundreds of different compounds composed of hydrogen and carbon (i.e., hydrocarbon compounds). For the purposes of this document, petroleum mixtures are subdivided into gasolines, middle distillates, and residual fuels, following the methodology used by the American Petroleum Institute (API 1994). Gasolines are defined as petroleum mixtures characterized by a predominance of branched alkanes and aromatic hydrocarbons with carbon ranges of C₆ to C₁₂ and lesser amounts of straight-chain alkanes, alkenes and cycloalkanes of the same carbon range. Middle distillates (e.g., kerosene, diesel fuel, home heating fuel, jet fuel, etc.) are characterized by a wider variety of straight, branched and cyclic alkanes, polynuclear aromatic hydrocarbons (PAHs, particularly naphthalene and methyl naphthalenes) and heterocyclic compounds with carbon ranges of approximately C₉ to C₂₅. Residual fuels (e.g., fuel oil Nos. 4, 5, and 6, lubricating oils, waste oils, and grease, asphalts; etc.) are characterized as complex, polar PAHs, naphthenoaromatics, asphaltenes and other high-molecular-weight, saturated hydrocarbon compounds with carbon ranges that is general fall between C₂₄ and C₄₀.

Laboratory analysis for TPH as gasoline and middle-distillates is commonly carried out using EPA Method 8015 (or equivalent) modified for gasoline-range organics (Volatile Fuel Hydrocarbons) and diesel-range organics (Extractable Fuel Hydrocarbons), respectively. Analysis for TPH as residual fuels up to the C₄₀ carbon range can generally be carried out by gas chromatograph methods (e.g., Method 8015 modified for motor oil and waste oil range organics) but can also include the use of infrared or gravimetric methods."

Therefore, the groundwater cleanup goals for TPH are necessary. Data presented in the latest Second Quarter 2009 Groundwater Monitoring Report (July 15, 2009) for this site showed that the TPH concentrations in groundwater at the site have increased.

- Kinder Morgan's Alternative Numerical Cleanup Goals Comment #5 – *For TPH in soil, we had previously proposed using criteria originally recommended by the Water Board in their 1996 guidance (AMEC, 2008a); however, now the sediment and seawater data show that the current Site soil concentrations are not posing a risk to the aquatic receptors (AMEC E&E, 2008) so cleanup goals for TPH in soil for aquatic protection are no longer necessary. Therefore, we have developed risk-based criteria for TPH based on the carbon-chain risk-based screening levels in the risk assessment (AMEC, 2008b) and the proportion of those carbon-chain groups within the TPHg, TPHd, and TPHmo measurement (Appendix C). These criteria would be applied for soil that is likely to be contacted by future construction workers (approximately 0 to 10 feet bgs). These criteria are considered protective of groundwater quality at the LAMT Site because TPH concentrations in soil at the Site have not resulted in exceedence of the alternative preliminary cleanup goals for groundwater.*

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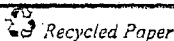


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- Regional Board Staff's Response to Comment #5 – Regional Board staff disagrees with Kinder Morgan that the sediment and seawater data shows that the current site soil concentrations are not posing a risk to the aquatic receptors. The sediment and seawater characterization study was not conducted to determine seawater quality but to determine sediment quality using the triad approach and to evaluate the extent of sediment contamination, if any. In this study, TPH was not considered in the determination of the sediment quality by the State's triad approach. Seawater samples were not used to assess sediment quality, impact to the sediment quality, or impact to aquatic receptors. The study showed that existing soil and groundwater conditions at the site were not adversely impacting sediment conditions.

In summary, based on the sediment and seawater characterization study report, staff cannot determine if current site soil concentrations are posing or not posing a risk to the aquatic receptors. Regional Board staff believes that using human risk assessment data based on non-cancer risk for TPH will only protect humans and may have a negative impact to the receiving water bodies.

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Tracy J. Egoscue
Revised Responses to Stateholder's Comments
Former GATX Los Angeles Marine Terminal Berths 171 through 173

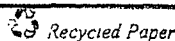
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Enclosures: Attachment I. Tables
Attachment II. Additional Responses to Comments
Attachment III. Summary of Alternative Comparisons
Attachment IV. Comments Letters

List: Mr. Jeff Ogata, Office of Chief Counsel, California State Water Resources Control Board
Mr. Arthur Heath, California Regional Water Quality Control Board, Los Angeles
Ms. Su Han, California Regional Water Quality Control Board, Los Angeles
Ms. Thizar Tintut-Williams, California Regional Water Quality Control Board, Los Angeles
Mr. Ralph Appy, Ph.D., Port of Los Angeles
Mr. Kenneth Ragland, the Port of Los Angeles
Mr. Chris Foley, the Port of Los Angeles
Mr. Ken Mattfeld, the Port of Los Angeles
Ms. Nancy E. VanBurgel, Kinder Morgan Inc.
Mr. Scott Martin, Kinder Morgan Energy Partners, L.P.
Mr. Mark A. Aebi, ConocoPhillips
Mr. Derrick Vallance, Esq., ConocoPhillips
Mr. Pete Spicer, ConocoPhillips
Mr. Rich Solomon, ConocoPhillips
Mr. Dan Carrier, Chevron Corporation
Mr. Arthur Todd Littleworth, Chevron Corporation
Mr. William W. Funderburk, Jr., Stanzler Funderburk & Castellon LLP
Ms. Laura Carroll, Luce, Forward, Hamilton & Scripps LLP
Ms. Belynda Reck, O'Donnell Shaeffer Mortimer, LLP
Mr. Christopher J. McNevin, Pillsbury Winthrop Shaw Pittman LLP
Mr. David Liu, Tetra Tech
Ms. Heather Benfield, Tetra Tech
Ms. Kay Johnson, Tetra Tech
Ms. Ann Holbrow-Verwiel, AMEC
Mr. Barry Kellems, Arcadis
Mr. Dawn Zemo, Zemo Associates
Mr. Joseph Muzzio, SAIC

/ttw

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ATTACHMENT I

ATTACHMENT 1

Table 1¹
Revised Site-Specific Cleanup Goals for Former GATX Los Angeles Marine Terminal
Port of Los Angeles, Berths 171-173, Wilmington, California

Contaminant of Concern	Groundwater $\mu\text{g}/\text{l}^2$	Soil mg/kg^3
Acenaphthylene	370	20
Benzene	71	0.055
Benzo(a)anthracene	0.049	0.22
Benzo(a)pyrene	0.049	0.55
Benzo(b)fluoranthene	0.049	0.66
Benzo(k)fluoranthene	0.049	0.66
Tert-Butyl Alcohol	12	0.0056
TPH (C6-C12) (purgeable)	100	180
TPH (C9-C25) (extractable)	100	180
TPH (C24-C40) (extractable)	100	2,500
Chrysene	0.049	0.22
Dibenzo(a,h)anthracene	0.049	2.1
Ethylbenzene	940	3.9
Indeno(1,2,3-cd)pyrene	0.049	13
Methyl tert-butyl ether	5	0.0073
Naphthalene	370	8.2
n-Propylbenzene	11,000	70
1,2,4-Trimethylbenzene	790	12
1,3,5-Trimethylbenzene	830	12
Aroclor 1254	0.00017	0.00037
Arsenic	36	8.7
Lead	8.1	52
Molybdenum	--	4.4
Selenium	71	0.23
Thallium	6.3	0.95

¹ Replaced "Table 1", August 17, 2009 Memorandum

² $\mu\text{g}/\text{l}$ = microgram per liter

³ mg/kg = milligram per kilogram

Table 2A:
Summary of Revised Site-Specific Groundwater Cleanup Goals
(Concentrations in $\mu\text{g/l}$)

Contaminant of Concern	Revised Staff Proposed Cleanup Goals ⁵	Ref. Used	(A) California Toxics Rule	(B) Site Specific Human Health (Cancerous) Risk Levels ⁶	(C) General NPDES Daily Maximum ⁷	(D) Site Specific Human Health (Non-Cancerous) Risk Levels ⁸
Acenaphthene	2,700	A	2,700	-- ⁹	--	22,000
Acenaphthylene	370	A	370	--	--	15,000
Acetone	700	C	--	--	700	830,000
tert-Amyl Methyl Ether	42,000	B	--	42,000	--	1,500,000
Anthracene	82,000	A	82,000	--	--	82,000
Benzene	71	A	71	93	1	5,900
Benzo(a)anthracene	0.049	A	0.049	10	--	--
Benzo(a)pyrene	0.049	A	0.049	0.66	--	--
Benzo(b)fluoranthene	0.049	A	0.049	5.8	--	--
Benzo(g,h,i)perylene	370	A	370	--	--	7,000
Benzo(k)fluoranthene	0.049	A	0.049	4.4	--	--
Bromodichloromethane	46	A	46	540	0.56	31,000
2-butanone	700	C	--	--	700	1,500,000
tert-Butyl Alcohol	12 ¹⁰	B	--	69,000	12	--
n-Butyl benzene	9,000	D	--	--	--	9,000
sec-Butyl benzene	9,700	D	--	--	--	9,700
tert-Butyl benzene	10,000	D	--	--	--	10,000
TPH	100 ¹⁰	C	--	--	100 (TPH total)	6,000
Carbon disulfide	12,000	D	--	--	--	12,000
Chlorobenzene	21,000	A	21,000	--	30	22,000
Chloroform	640	B	--	640	100	6,100
Chrysene	0.049	A	0.049	100	--	--
Dibenzo(a,h)anthracene	0.049	A	0.049	0.96	--	--
1,2-Dichlorobenzene	17,000	A	17,000	--	--	71,000
1,4-Dichlorobenzene	730	A	730	730	--	130,000
1,1-Dichloroethane	1,900	B	--	1,900	5	55,000

⁴ $\mu\text{g/l}$ = microgram per liter

⁵ Replaced "Staff Proposed Revised Cleanup Goals" (August 17, 2009 Memorandum)

⁶ "Site Characterization and Risk Assessment Report" (October 2008)

⁷ General NPDES Permit No. CAG834001 (Order No. R4-2007-0021) and General NPDES Permit No. CAG914001 (Order No. R4-2007-0022)

⁸ "Site Characterization and Risk Assessment Report" (October 2008)

⁹ No numerical value

¹⁰ NPDES value is selected based on Taste and Odor (best professional judgment)

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Contaminant of Concern	Revised Staff Proposed Cleanup Goals ⁵	Ref. Used	(A) California Toxics Rule	(B) Site Specific Human Health (Cancerous) Risk Levels ⁶	(C) General NPDES Daily Maximum ⁷	(D) Site Specific Human Health (Non-Cancerous) Risk Levels ⁸
cis-1,2-Dichloroethene	5,300	D	--	--	--	5,300
1,2-Dichloropropane	39	A	39	580	0.52	850
Diisopropylether (DIPE)	0.8	C	--	--	0.8	24,000
Ethanol	410,000	D	--	--	--	410,000
Ethylbenzene	940	A	940	940	700	170,000
Fluoranthene	370	A	370	--	--	20,000
Fluorene	13,000 ¹¹	D	14,000	--	--	13,000
2-Hexanone	1,400,000	D	--	--	--	1,400,000
Indeno(1,2,3-cd)pyrene	0.049	A	0.049	3.4	--	--
Isopropyl benzene	22,000	D	--	--	--	22,000
p-Isopropyl toluene	28,000	D	--	--	--	28,000
2-Methylnaphthalene	1,300	D	--	--	--	1,300
Methylene Chloride	1,600	A	1,600	5,700	4.7	81,000
Methyl tert-butyl ether	5 ¹²	C	--	65,000	5	2,000,000
Naphthalene	370	A	370	1,000	21	3,500
Phenanthrene	370	A	370	--	--	33,000
n-Propylbenzene	11,000	D	--	--	--	11,000
Pyrene	6,800 ¹¹	D	11,000	--	--	6,800
1,1,2,2-Tetrachloroethane	11	A	11	880	0.17	92,000
Tetrachloroethene	8.85	A	8.85	180	0.8	8,300
Toluene	26,000 ¹¹	D	200,000	--	150	26,000
1,2,3-Trichlorobenzene	1,300 ¹³	D	--	3,900	--	1,300
1,2,4-Trichlorobenzene	1,600 ¹³	D	--	24,000	--	1,600
1,1,2-Trichloroethane	42	A	42	1,000	0.6	5,400
Trichloroethene	81	A	81	840	2.7	2,200
1,1,2-Trichloro-1,2,2-trifluoroethane	39,000	D	--	--	--	39,000
1,2,3-Trichloropropane	39	B	--	39	--	1,900
1,2,4-Trimethylbenzene	790	D	--	--	--	790
1,3,5-Trimethylbenzene	830	D	--	--	--	830
Vinyl Chloride	6 ¹⁴	D	530	6	0.5	1,700
Xylenes	1,750	C	--	--	1,750	67,000
o-Xylene	77,000	D	--	--	--	77,000
Aroclor 1254	0.00017	A	0.00017	--	0.03	--

¹¹ Human Health Risk (Non Cancerous) Assessment value is more stringent than CTR value
¹² NPDES value is selected based on Taste and Odor (best professional judgment)
¹³ Human Health Risk (Non Cancerous) Assessment value is more stringent than Human Health Risk (Cancer) Assessment value
¹⁴ Human Health Risk (Cancerous) Assessment value is more stringent than CTR value

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Contaminant of Concern	Revised Staff Proposed Cleanup Goals ⁵	Ref. Used	(A) California Toxics Rule	(B) Site Specific Human Health (Cancerous) Risk Levels ⁶	(C) General NPDES Daily Maximum ⁷	(D) Site Specific Human Health (Non-Cancerous) Risk Levels ⁸
Arsenic	36	A	36	--	--	--
Cadmium	9.3	A	9.3	--	--	--
Copper	3.1	A	3.1	--	--	--
Lead	8.1	A	8.1	--	5.2	--
Organo Lead	--	--	--	--	--	--
Mercury	0.051	A	0.051	--	--	--
Molebdenum	--	--	--	--	--	--
Nickel	8.2	A	8.2	--	--	--
Selenium	71	A	71	--	--	--
Silver	1.9	A	1.9	--	--	--
Thallium	6.3	A	6.3	--	--	--
Zinc	81	A	81	--	--	--

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Table 2B.
Comparison of Proposed Site-Specific Groundwater Cleanup Goals
(Concentrations in $\mu\text{g/l}^{15}$)

Contaminant of Concern	Revised Staff Proposed Cleanup Goals (01/19/2010)	Staff Proposed Revised Cleanup Goals (08/17/2009)	Kinder Morgan Proposed Alternative Cleanup Goals (02/2009)	Existing Cleanup Goals (11/18/2008)	Kinder Morgan Previously Proposed Cleanup Goals (09/26/2008)
Acenaphthene	2,700	2,700	2,700	2,700	2,700
Acenaphthylene	370	370	370	370	370
Acetone	700	830,000	830,000	120	120
tert-Amyl Methyl Ether	42,000	42,000	42,000	42,000	42,000
Anthracene	82,000	82,000	82,000	82,000	82,036
Benzene	71	71	71	71	71
Benzo(a)anthracene	0.049	0.049	0.049	0.049	0.049
Benzo(a)pyrene	0.049	0.049	0.049	0.049	0.049
Benzo(b)fluoranthene	0.049	0.049	0.049	0.049	0.049
Benzo(g,h,i)perylene	370	370	370	370	370
Benzo(k)fluoranthene	0.049	0.049	0.049	0.049	0.049
Bromodichloromethane	46	46	46	46	46
2-butanone	700	1,500,000	1,500,000	120	120
tert-Butyl Alcohol	12	12	69,000	12	12
n-Butyl benzene	9,000	9,000	9,000	260	260
sec-Butyl benzene	9,700	9,700	9,700	260	260
tert-Butyl benzene	10,000	10,000	10,000	260	260
TPH	100	100	1,200	210	12,000
Carbon disulfide	12,000	12,000	12,000	160	160
Chlorobenzene	21,000	21,000	21,000	21,000	21,000
Chloroform	640	130	130	130	130
Chrysene	0.049	0.049	0.049	0.049	0.049
Dibenzo(a,h)anthracene	0.049	0.049	0.049	0.049	0.049
1,2-Dichlorobenzene	17,000	17,000	17,000	17,000	17,000
1,4-Dichlorobenzene	730	730	730	730	730
1,1-Dichloroethane	1,900	1,900	1,900	5	5
cis-1,2-Dichloroethene	5,300	5,300	5,300	6	6
1,2-Dichloropropane	39	39	39	39	39

¹⁵ $\mu\text{g/l}$ = microgram per liter
 Number in **Bold** - A different value from August 17, 2009 Memorandum

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Contaminant of Concern	Revised Staff Proposed Cleanup Goals (01/19/2010)	Staff Proposed Revised Cleanup Goals (08/17/2009)	Kinder Morgan Proposed Alternative Cleanup Goals (02/2009)	Existing Cleanup Goals (11/18/2008)	Kinder Morgan Previously Proposed Cleanup Goals (09/26/2008)
Diisopropylether (DIPE)	0.8	24,000	24,000	24,000	24,000
Ethanol	410,000	410,000	410,000	410,000	410,000
Ethylbenzene	940	940	940	940	940
Fluoranthene	370	370	370	370	370
Fluorene	13,000	13,000	13,000	13,000	13,000
2-Hexanone	1,400,000	1,400,000	1,400,000	120	120
Indeno(1,2,3-cd)pyrene	0.049	0.049	0.049	0.049	0.049
Isopropyl benzene	22,000	22,000	22,000	260	260
p-Isopropyl toluene	28,000	28,000	28,000	260	260
2-Methylnaphthalene	1,300	1,300	1,300	370	370
Methylene Chloride	1,600	1,600	1,600	1,600	1,600
Methyl tert-butyl ether	5	13	65,000	13	13
Naphthalene	370	370	370	17	17
Phenanthrene	370	370	370	370	370
n-Propylbenzene	11,000	11,000	11,000	260	260
Pyrene	6,800	6,800	6,800	6,800	6,800
1,1,2,2-Tetrachloroethane	11	11	11	11	11
Tetrachloroethene	8.85	8.8	8.85	8.8	8.9
Toluene	26,000	26,000	26,000	26,000	26,000
1,2,3-Trichlorobenzene	1,300	1,300	1,300	1,300	1,300
1,2,4-Trichlorobenzene	1,600	1,600	1,600	5	5
1,1,2-Trichloroethane	42	42	42	42	42
Trichloroethene	81	81	81	81	81
1,1,2-Trichloro-1,2,2-trifluoroethane	39,000	39,000	39,000	39,000	39,000
1,2,3-Trichloropropane	39	39	39	0.005	5
1,2,4-Trimethylbenzene	790	790	790	330	330
1,3,5-Trimethylbenzene	830	830	830	330	330
Vinyl Chloride	6	6	6	6	6
Xylenes	1,750	67,000	67,000	1,750	1,800
o-Xylene	77,000	210,000	210,000	--	1,800
Aroclor 1254	0.00017	0.00017	0	0.00017	--
Arsenic	36	36	--	36	--
Cadmium	9.3	9.3	--	9.3	9.3
Copper	3.1	3.1	--	3.1	3.1
Lead	8.1	8.1	--	8.1	8.1
Organo Lead	--	--	--	--	--
Mercury	0.051	0.051	--	0.051	2

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Contaminant of Concern	Revised Staff Proposed Cleanup Goals (01/19/2010)	Staff Proposed Revised Cleanup Goals (08/17/2009)	Kinder Morgan Proposed Alternative Cleanup Goals (02/2009)	Existing Cleanup Goals (11/18/2008)	Kinder Morgan Previously Proposed Cleanup Goals (09/26/2008)
Molybdenum	--	--	--	--	--
Nickel	8.2	8.2	--	8.2	--
Selenium	71	--	--	--	--
Silver	1.9	1.9	--	1.9	--
Thallium	6.3	6.3	--	6.3	6.3
Zinc	81	81	--	81	81

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Table 3A.
Summary of Revised Site-Specific Soil Cleanup Goals (Organic Compounds)
(Concentrations in mg/kg¹⁶)

Contaminant of Concern	Revised Staff Proposed Cleanup Goals ¹⁷	Ref. Used	(A) Equilibrium Partitioning Approach ¹⁸	(B) Site Specific Human Health (Cancerous) Risk Levels ¹⁹	(C) Site Specific Human Health (Noncancerous) Risk levels ²⁰
Acenaphthene	210	A	210	--	10,000
Acenaphthylene	20	A	20	--	6,700
Acetone	0.047	A	0.047	--	160,000
Anthracene	27,000	A	27,000	--	50,000
Benzene	0.055	A	0.055	170	710
Benzo(a)anthracene	0.22	A	0.22	13	--
Benzo(a)pyrene	0.55	A	0.55	1.3	--
Benzo(b)fluoranthene	0.66	A	0.66	13	--
Benzo(g,h,i)perylene	10,000 ²¹	C	32,000	--	10,000
Benzo(k)fluoranthene	0.66	A	0.66	13	--
tert-Butyl Alcohol	0.0056	A	0.0056	5,700	--
sec-Butyl benzene	110	A	110	--	7,100
tert-Butyl benzene	87	A	87	--	7,100
TPHg (C5-C9)	180	ESL ²²	NA ²³	--	7,100 ²⁴
TPHd (C10-C25)	180	ESL	NA	--	7,100 ²⁵
TPHmo (C25-C36)	2,500	ESL	NA	--	350,000 ²⁶
Carbon disulfide	11	A	11	--	18,000
Chrysene	0.22	A	0.22	130	--
Dibenzo(a,h)anthracene	2.1	A	2.1	3.8	--
Ethylbenzene	3.9	A	3.9	1,600	18,000
Fluoranthene	440	A	440	--	6,700
Fluorene	2,000	A	2,000	--	6,700
Indeno(1,2,3-cd)pyrene	13 ²⁷	B	2,200	13	--

¹⁶ mg/kg = milligram per kilogram

¹⁷ Replaced "Staff Proposed Revised Cleanup Goals" (August 17, 2009 Memorandum)

¹⁸ "Calculation of Soil Concentrations Based on Leaching to Groundwater" (Revised July 8, 2009)

¹⁹ "Site Characterization and Risk Assessment Report" (October 2008)

²⁰ "Site Characterization and Risk Assessment Report" (October 2008)

²¹ Human Health Risk (Noncancerous) Assessment value is more stringent than Equilibrium Partitioning Approach value

²² Based on non-drinking water sources as developed in San Francisco Bay's ESL Document (November 2007 Interim Final)

²³ Calculation is not available based on 100 µg/l groundwater cleanup goal

²⁴ Human Health Risk Assessment is based on C5-C8 is shown

²⁵ Human Health Risk Assessment is based on C11-C22 is shown

²⁶ Human Health Risk Assessment is based on C19-C36 is shown

²⁷ Human Health Risk (Cancerous) Assessment value is more stringent than Equilibrium Partitioning Approach value

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Contaminant of Concern	Revised Staff Proposed Cleanup Goals ¹⁷	Ref. Used	(A) Equilibrium Partitioning Approach ¹⁸	(B) Site Specific Human Health (Cancerous) Risk Levels ¹⁹	(C) Site Specific Human Health (Noncancerous) Risk levels ²⁰
Isopropyl benzene	390	A	390	--	18,000
p-Isopropyl toluene	1,200	A	1,200	--	18,000
2-Methylnaphthalene	41	A	41	--	670
Methylene chloride	0.35	A	0.35	1,200	11,000
Methyl tert-butyl ether	0.0073	A	0.0073	9,600	150,000
Naphthalene	8.2	A	8.2	--	3,400
Phenanthrene	110	A	110	--	6,700
n-Propylbenzene	70	A	70	--	7,100
Pyrene	5,000	C	7,900	--	5,000
Tetrachloroethene	0.017	A	0.017	NC ²⁸	NC
Toluene	56	A	56	--	14,000
Trichloroethene	0.16	A	0.16	NC	NC
1,2,4-Trimethylbenzene	12	A	12	--	8,800
1,3,5-Trimethylbenzene	12	A	12	--	8,800
Xylenes	7.2	A	7.2	--	35,000
o-Xylenes	320	A	320	--	35,000
Aroclor 1254	0.00037	A	0.00037	3	3.3

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²⁸ Human Health Risk Assessment is not developed

Table 3A (continued)
Summary of Revised Site-Specific Soil Cleanup Goals (Metals)
(Concentrations in mg/kg²⁹)

Contaminant of Concern	Revised Staff Proposed Cleanup Goals	Ref Used	(D) Kearney Background Concentration ³⁰	(E) Risk-based Concentration ³¹	(F) Site Specific Human Health (Cancerous) Risk Levels	(G) Site Specific Human Health (Noncancerous) Risk Levels
Arsenic	8.7	D	8.7	0.0013	NC	NC
Cadmium	1.4	E	1.0	1.4	13,000	98
Copper	69	D	69	51	--	7,700
Lead	52	D	52	--	NC	NC
Organo Lead	0.000014	E	--	0.000014	NC	NC
Mercury	0.69	D	0.69	0.033	--	53
Molybdenum	4.4	D	4.4	3.7	--	1,000
Nickel	222	D	222	48	NC	NC
Selenium	0.23	D	0.23	--	--	1,000
Silver	3.75	D	3.75	1.6	NC	NC
Thallium	0.95	D	0.95	0.17	--	17
Zinc	680	E	215	680	--	63,000

²⁹ mg/kg = milligram per kilogram

³⁰ "Background Concentrations of Trace and Major Elements in California Soils, Kearney Foundation Special Report (March 1996) and 95% Upper Tolerance Limit on Table 3-8, "Site Characterization and Risk Assessment Report" (October 2008)

³¹ Risk-Based Soil Screening Levels for Protection of Groundwater, Risk-Based Concentration Table, "Regional Screening Levels for Chemical Contaminants at Superfund Sites" (July 7, 2008)

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Table 3B.
Comparison of Proposed Site-Specific Soil Cleanup Goals
(Concentrations in mg/kg³²)

Contaminant of Concern	Revised Staff Proposed Cleanup Goals (01/19/2010)	Staff Proposed Revised Cleanup Goals (08/17/2009)	Kinder Morgan Proposed Alternative Cleanup Goals (02/2009)	Existing Cleanup Goals (11/18/2008)	Kinder Morgan Previously Proposed Cleanup Goals (09/26/2008)
Acenaphthene	210	210	10,000	38	38
Acenaphthylene	20	20	6,700	3.6	3.6
Acetone	0.047	6,500	160,000	0.0075	0.93
Anthracene	27,000	27,000	50,000	4,900	4,900
Benzene	0.055	0.55	170	0.017	0.55
Benzo(a)anthracene	0.22	0.22	13	0.039	0.039
Benzo(a)pyrene	0.55	0.55	1.3	0.10	0.102
Benzo(b)fluoranthene	0.66	0.66	13	0.12	0.12
Benzo(g,h,i)perylene	10,000	10,000	10,000	5,800	5,800
Benzo(k)fluoranthene	0.66	0.66	13	0.12	0.093
tert-Butyl Alcohol	0.0056	0.093	5,700	0.0016	0.093
sec-Butyl benzene	110	98	7,100	0.56	2
tert-Butyl benzene	87	78	7,100	0.45	2
TPHg (C5-C9)	180	180	7,100	180	--
TPHd (C10-C25)	180	180	39,000	180	--
TPHmo (C25-C36)	2,500	2,500	350,000	2,500	--
Carbon disulfide	11	93	18,000	0.079	--
Chrysene	0.22	0.22	130	0.039	0.039
Dibenzo(a,h)anthracene	2.1	2.1	3.8	0.37	0.37
Ethylbenzene	3.9	7.3	1,600	0.81	7.3
Fluoranthene	440	440	6,700	79	79
Fluorene	2,000	2,000	6,700	360	360
Indeno(1,2,3-cd)pyrene	13	1.9	13	0.34	0.34
Isopropyl benzene	390	390	18,000	3.5	3.5
p-Isopropyl toluene	1,200	1,200	18,000	2.2	2.2
2-Methylnaphthalene	41	41	670	2.1	2.9
Methylene chloride	0.35	12	1,200	0.17	--
Methyl tert-butyl ether	0.0073	0.1	9,600	0.0011	0.1
Naphthalene	8.2	8.2	3,400	0.069	0.13
Phenanthrene	110	110	6,700	20	20
n-Propylbenzene	70	85	7,100	0.34	2
Pyrene	5,000	5,000	5,000	1,400	1,400

³² mg/kg = milligram per kilogram

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Contaminant of Concern	Revised Staff Proposed Cleanup Goals (01/19/2010)	Staff Proposed Revised Cleanup Goals (08/17/2009)	Kinder Morgan Proposed Alternative Cleanup Goals (02/2009)	Existing Cleanup Goals (11/18/2008)	Kinder Morgan Previously Proposed Cleanup Goals (09/26/2008)
Tetrachloroethene	0.017	0.068	--	0.0049	--
Toluene	56	200	14,000	13	200
Trichloroethene	0.16	0.63	--	0.040	--
1,2,4-Trimethylbenzene	12	12	8,800	0.94	2.6
1,3,5-Trimethylbenzene	12	12	8,800	0.94	2.6
Xylenes	7.2	520	35,000	0.94	14
o-Xylenes	320	1,600	35,000	--	14
Aroclor 1254	0.00037	0.00037	3	0.000068	0.000068
Arsenic	8.7	8.6	--	8.6	--
Cadmium	1.4	98	98	1.4	98
Copper	69	7,700	7,700	60	7,700
Lead	52	700	700	40	0.7
Organo Lead	0.00014	0.000014	--	0.000014	--
Mercury	0.69	53	53	0.65	53
Molybdenum	4.4	1,000	1,000	--	1,500
Nickel	222	70	--	70	--
Selenium	0.23	1,000	1,000	--	1,500
Silver	3.75	0.9	--	0.9	--
Thallium	0.95	17	17	0.9	17
Zinc	680	63,000	63,000	680	63,000

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