



# California Regional Water Quality Control Board

## Los Angeles Region



**Linda S. Adams**  
*Acting Secretary for  
Environmental Protection*

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**Edmund G. Brown Jr.**  
*Governor*

May 13, 2011

Ms. Kathryn A. Gleeson  
Manager Environmental Services  
Paramount Petroleum Corporation  
14700 Downey Avenue  
Paramount, CA 90723

**SUBJECT: WASTE DISCHARGE REQUIREMENTS FOR PILOT TESTS FOR THE INJECTION OF SURFACTANTS INTO SUBSURFACE TO REMEDIATE PETROLEUM HYDROCARBON IMPACTED GROUNDWATER**

**SITE/CASE: GX-145 PIPELINE RELEASE AREA, 18900 BLOCK OF SANTA FE AVENUE AT COMPTON CREEK, RANCHO DOMINGUEZ, CALIFORNIA (CLEANUP AND ABATEMENT ORDER NO. 98-075, FILE NO. 98-135, SCP NO. 0532B, SITE ID NO. 2045K00)**

Dear Ms. Gleeson:

Pursuant to Division 7 of the California Water Code, this Regional Board at a public hearing held on May 5, 2011 reviewed the tentative requirements, considered all factors in the case, and adopted Order No. R4-2011-0089 (copy attached) relative to this waste discharge. Section 13263 (e) of the California Water Code provides that all Requirements shall be reviewed periodically and, upon such review, may be revised by the Regional Board.

Monitoring and Reporting Program (MRP) No. CI-9643 requires you to implement the monitoring program on the effective date of this Order. All monitoring reports required under this MRP, including groundwater monitoring data, shall be uploaded to the State Water Resources Control Board GeoTracker database, in addition to submitting hard copies to the Regional Board, ATTN: Information Technology Unit. Once you demonstrate mastery of electronic submittal of reports to GeoTracker for the site, you may request that the Regional Board waive the requirement of submitting hard copies of reports.

When submitting monitoring or technical reports to the Regional Board per these requirements, please include a reference to Compliance File No. CI-9643 and Order No. R4-2011-0089, which will assure that the reports are directed to the appropriate file and staff. Please do not combine your discharge monitoring reports with other reports. Submit each type of report as a separate document.

To avoid paying future annual fees, please submit a written request for termination of your coverage under WDR Order No. R4-2011-0089 in a separate letter, when your project has been completed and the WDR is no longer needed. Be aware that the annual fee covers the fiscal year billing period beginning July 1 and ending June 30, the following year. You will pay the full annual fee if your request for termination is made after the beginning of the new fiscal year beginning July 1.

***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*

Ms. Kathryn Gleeson  
Paramount Petroleum Corporation  
SCP No. 0532B

- 2 -

May 13, 2011

Please contact Mr. Luis Changkuon at (213) 576-6667 (lchangkuon@waterboards.ca.gov) if you have any questions.

Sincerely,

  
Samuel Unger, PE  
Executive Officer

Enclosures:

1. Board Resolution No. R11-007;
2. Board Order No. R4-2011-0089 and Standard Provisions; and
3. Monitoring and Reporting Program No. CI-9643

cc: United States Environmental Protection Agency, Region 9, Permits Branch (WTR-5)  
State Water Resources Control Board, Division of Water Quality  
Department of Fish and Game, Region 5  
National Resources Defense Council  
Dmitriy Ginzburg, State Department of Public Health, Drinking Water Field Operations Branch  
Carl G. Brooks, South Coast Air Quality Management District  
Nancy Matsumoto, Water Replenishment District of Southern California  
Chris Nagler, Wastewater, California Department of Water Resources  
Cheryl Ross, West Basin Municipal Water District  
Jackie Takeda, California Water Service Company  
Chris D'Sa, RMT, Inc.  
Joan Preble, Union Pacific Railroad Company  
Luis Ramirez, Los Angeles Co. Department of Public Works, Project Management Division II  
Eden Berhan, Los Angeles County Department of Public Works, Floods Permit Section  
Gerald Goodman, Los Angeles County Department of Public Works, Engineering Division  
Los Angeles County Department of Public Works, Waste Management Division  
Stacey Johnson, Hector Land, LLC; Overton Moore Properties

***California Environmental Protection Agency***



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

RESOLUTION NO. R11-007

APPROVING THE ENVIRONMENTAL CHECKLIST AND  
ADOPTING A MITIGATED NEGATIVE DECLARATION FOR  
PILOT TESTS FOR THE  
INJECTION OF SURFACTANTS INTO SUBSURFACE  
TO REMEDIATE PETROLEUM HYDROCARBON IMPACTED GROUNDWATER  
GX-145 PIPELINE RELEASE AREA,  
RANCHO DOMINGUEZ, CALIFORNIA

(FILE NO. 98-135, SCP NO. 0532B)

**WHEREAS, the California Regional Water Quality Control Board, Los Angeles Region finds that:**

1. California Water Code (CWC) section 13260(a)(1) requires that any person discharging wastes, or proposing to discharge wastes other than into a community wastewater collection system, which could affect the quality of the waters of the State, shall file a report of waste discharge (ROWD) with the Regional Water Quality Control Board exercising jurisdiction in the area, and that Regional Board shall then prescribe requirements for the discharge or proposed discharge of wastes.
2. The GX-145 Pipeline Release Area (Site) is located in the vicinity of the 18900 block of Santa Fe Avenue at Compton Creek in Rancho Dominguez, California (Latitude 33° 51' 36" N, Longitude 118° 12' 58" W). The Site where the proposed remediation is going to be implemented is owned by Union Pacific Railroad Company; however, Paramount Petroleum Corporation (hereafter Discharger) is responsible for the investigation and remediation of petroleum hydrocarbon impacted soil and groundwater. The Site is approximately 3.5 acres in size, based upon the lateral extent of the hydrocarbon impacted groundwater, and is located in the vicinity of the intersection of Santa Fe Avenue and Compton Creek in an industrial/commercial area of Rancho Dominguez.
3. The GX-145 pipeline runs mostly below ground surface along Santa Fe Avenue; however, it runs above ground surface attached beneath the Santa Fe Avenue Bridge that passes over Compton Creek. In September 1997 a leak was discovered in the underground section of the pipeline, just west of the Bridge. The pipeline carried jet fuel, naphtha, and diesel fuel prior to the leak discovery.
4. The Discharger and previous pipeline owners and operators have been conducting soil and groundwater investigations since September 1997 under the oversight of the Regional Board. In October 1998, the Regional Board issued Cleanup and Abatement Order (CAO) No. 98-075, requiring cleanup and abatement of soil and groundwater pollution caused by the release of petroleum hydrocarbons at the Site. A total of 31 groundwater monitoring wells have been installed to monitor the groundwater conditions and recover free phase hydrocarbons at the Site and vicinity. Results from the soil and groundwater assessments indicates that the primary contaminants are free and dissolved phase hydrocarbons, and associated volatile organic compounds (VOCs), including benzene, toluene, ethylbenzene, and total xylenes (BTEX).
5. A soil vapor extraction (SVE) system was operated at the Site from 1999 to 2006 to address petroleum hydrocarbon impacted soil. The SVE system extracted impacted soil vapors from the

vadose zone and treated them with catalytic oxidizers. During SVE operations at the Site, an estimated 18,400 gallons of vapor-phase product was recovered. In 2006, the Regional Board conditionally approved the shutdown of the SVE system due to its inefficiency, and required the Discharger to reinstall the SVE system or use alternative remedial actions after the free product plume is shrunk or adequately mitigated.

6. Free phase hydrocarbon recovery has been conducted since September 1997, initially with manual bailing and vacuum truck and followed by two permanent automated recovery systems starting May 1999. An estimated 205,000 gallons of free phase product have been recovered to date.
7. The Discharger submitted the "Updated Remediation Evaluation Report and Workplan" (Report/Workplan), dated December 2009. In the Report/Workplan, the Discharger evaluated alternative remedial technologies to address petroleum hydrocarbon impacts in soil and groundwater, and proposed pilot tests for the injection of surfactants into groundwater to enhance free phase hydrocarbon recovery. Multi-phase extraction (MPE) will be applied by extracting soil vapor, free product, and impacted groundwater from wells within the treatment area. The Regional Board approved the proposed pilot tests in a letter dated April 12, 2010.
8. To enhance the free product recovery, the Discharger proposes to inject the surfactant Ivey-sol<sup>®</sup> into impacted groundwater. The surfactant is expected to desorb free phase hydrocarbon from the solid phase and allow them to migrate as a liquid phase for improved mass recovery and treatment by various remediation techniques, such as MPE.
9. Groundwater beneath the Site and vicinity is unconfined and has been encountered at approximately 47 feet below ground surface. The direction of groundwater flow is generally to the south-southwest.
10. The Discharger will monitor groundwater for the presence and concentration of the injection solution and contaminants and evaluate flow conditions and any potential for migration of contaminants outside the treatment area. As specified in the Waste Discharge Requirements and Notice of Preparation of Mitigated Negative Declaration, the Discharger shall provide hydraulic control, if necessary, to prevent offsite migration. Monitoring of groundwater quality and flow conditions across the entire Site is required by a comprehensive separate site-wide groundwater monitoring program.
11. The application of surfactants to groundwater may result in temporary adverse impacts to groundwater quality, but impacts that may result will be localized and of short-term duration, and will not impact any existing or prospective uses of groundwater. According to the manufacturer, Ivey International Inc., the proposed surfactant to be used at the Site is biodegradable and has a biodegradability of greater than 90% in 28 days.
12. The Water Quality Control Plan (Basin Plan) for the Los Angeles Region designates the beneficial uses of groundwater in the Central Basin as municipal and domestic supply, industrial process supply, industrial service supply, and agricultural supply.

13. The permitted discharge is consistent with the anti-degradation provisions of State Water Resources Control Board Resolution No. 68-16 (Anti-degradation Policy). The discharge may result in some localized exceedance of background concentrations of constituents such as total organic carbon and total dissolved solids, but this is not anticipated to result in any long-term groundwater degradation.
14. This Regional Board has assumed lead agency role for this project under the California Environmental Quality Act (CEQA) [Public Resources Code section 21000 et seq.] and has conducted an Initial Study (in the format of an expanded Environmental Checklist) in accordance with Title 14, California Code of Regulations, Section 15063, and titled Guidelines for Implementation of the California Environmental Quality Act. Based on the Initial Study, Regional Board prepared a Mitigated Negative Declaration that the project will not have a significant adverse effect on the environment.
15. The Regional Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for this discharge and has provided them with an opportunity to submit their written comments and recommendations. The Regional Board, in a public meeting on May 5, 2011, heard and considered all comments pertaining to the discharge and to the tentative requirements.
16. Copies of the Environmental Checklist and proposed Mitigated Negative Declaration were transmitted to the State Clearinghouse, all agencies and interested parties. All comments received have been addressed by Regional Board staff. The Regional Board considered all testimony and evidence at a public hearing held on May 5, 2011 at the Metropolitan Water District of Southern California, Board Room, Los Angeles, located at 700 North Alameda Street, Los Angeles, California, and good cause was found to approve the Environmental Checklist and adopt a Mitigated Negative Declaration.
17. The Regional Board has reviewed the Initial Study and Mitigated Negative Declaration concerning this Resolution prepared by staff in compliance with CEQA (Public Resources Code section 21000 et seq.). The Regional Board concurs with the staff findings that a Mitigated Negative Declaration should be adopted. The Initial Study and Mitigated Negative Declaration were circulated for public review and comment.

THEREFORE, BE IT RESOLVED that the Regional Board:

1. Adopts the Environmental Checklist, Initial Study, and Mitigated Negative Declaration and directs the Executive Officer to file a Notice of Determination with the State Clearinghouse within 30 days as required by the California Code of Regulations.
2. Directs that a copy of this Resolution shall be forwarded to the State Water Resources Control Board and all interested parties.

3. Directs that the discharge of surfactants into the groundwater shall conform with all the requirements, conditions, and provisions set forth in *A. "Discharge Limits"* and *B. "Discharge Specifications"* of ORDER NO. R4-2011-0089.

CERTIFICATION

I, Samuel Unger, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, Los Angeles Region on May 5, 2011.

  
Samuel Unger, PE  
Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LOS ANGELES REGION

ORDER NO. R4-2011-0089

WASTE DISCHARGE REQUIREMENTS  
FOR  
PARAMOUNT PETROLEUM CORPORATION  
PILOT TESTS FOR THE  
INJECTION OF SURFACTANTS INTO SUBSURFACE  
TO REMEDIATE PETROLEUM HYDROCARBON IMPACTED GROUNDWATER  
GX-145 PIPELINE RELEASE AREA  
RANCHO DOMINGUEZ, CALIFORNIA

(FILE NO. 98-135, SCP NO. 0532B)

The California Regional Water Quality Control Board, Los Angeles Region, (hereafter Regional Board) herein finds that:

1. Paramount Petroleum Corporation (hereafter Discharger) has filed a Report of Waste Discharge and applied for Waste Discharge Requirements (WDR) to inject the surfactant Ivey-sol<sup>®</sup> to remediate petroleum hydrocarbons in groundwater at the GX-145 Pipeline Release Area (Site) identified below.
2. The Site is located in the vicinity of the 18900 block of Santa Fe Avenue at Compton Creek in Rancho Dominguez, California (Latitude 33° 51' 36" N, Longitude -118° 12' 58" W; see Figure 1). Union Pacific Railroad Company currently owns the Site where the proposed remediation is going to be implemented; however, Paramount Petroleum Corporation is responsible for the investigation and remediation of petroleum hydrocarbon impacted soil and groundwater.
3. The GX-145 pipeline runs mostly below ground surface along Santa Fe Avenue; however, it runs above ground surface attached beneath the Santa Fe Avenue Bridge that passes over Compton Creek. In September 1997 a leak was discovered in the underground section of the pipeline, just west of the Bridge. The pipeline carried jet fuel, naphtha, and diesel fuel prior to the leak discovery.
4. The Site is located in the Central Groundwater Basin within the Los Angeles Coastal Plain, and underlain by Quaternary alluvium, consisting of interbedded layers of clay, silt, sand, and gravel. The upper 40 to 45 feet of alluvial sediments consists of fine-grained silts and clays. Below 45 feet, coarser and more permeable sediments composed of sand, silty sand, and clayey sand is found. The water table is located at approximately 45 to 50 feet below ground surface. Locally the groundwater flow is generally to the south-southwest.
5. The Discharger and previous pipeline owners and operators have been conducting soil and groundwater investigations since September 1997 under the oversight of the Regional Board. In October 1998, the Regional Board issued Cleanup and Abatement Order (CAO) No. 98-075, requiring cleanup and abatement of soil and groundwater pollution caused by the release of petroleum hydrocarbons at the Site. A total of 31 groundwater monitoring wells have been installed to monitor the groundwater conditions and recover free phase hydrocarbon at the Site and vicinity. Results from the soil and groundwater assessments indicates that the primary contaminants are free and dissolved phase total petroleum hydrocarbons (TPH), and associated volatile organic compounds (VOCs), including benzene, toluene, ethylbenzene, and total xylenes (BTEX).

May 5, 2011

6. A soil vapor extraction (SVE) system was operated at the Site from 1999 to 2006 and extracted an estimated 18,400 gallons of vapor-phase product from the vadose zone. In 2006, the Regional Board conditionally approved to shutdown the SVE system due to its inefficiency, and required to reinstall a SVE system or use alternative remedial actions once the free product plume is shrinking or adequately mitigated.
7. Free phase hydrocarbon has been measured in groundwater monitoring wells at estimated thickness up to 15.80 feet during initial investigations. Currently, the lateral extent of free phase hydrocarbon has been delineated with an approximate extent of 3.5 acres and estimated thickness up to 5 feet (Figure 3). An estimated 205,000 gallons of free phase hydrocarbon has been recovered since 1997.
8. The Discharger submitted the "Updated Remediation Evaluation Report and Workplan" (Evaluation/Workplan), dated December 2009. In the Evaluation/Workplan, the Discharger evaluated alternative remedial technologies to address petroleum hydrocarbon impacts in soil and groundwater, and proposed pilot tests for the injection of surfactants into groundwater to enhance free phase hydrocarbon recovery. Multi-phase extraction (MPE) will be applied by extracting soil vapor, free product, and impacted groundwater from wells within the treatment area. The Regional Board approved the proposed pilot tests in a letter dated April 12, 2010.
9. The Discharger proposes to conduct a series of pilot tests at the Site for the injection of surfactant Ivey-sol<sup>®</sup> into existing groundwater monitoring wells with free phase hydrocarbon to enhance its recovery process, and apply MPE in downgradient wells in the treatment area. The surfactant is expected to desorb free phase hydrocarbon from the solid into the liquid phase, and allows an improved recovery by MPE. Soil vapor and impacted groundwater will be extracted from designated extraction wells by MPE and treated with on-site thermal oxidizer unit prior to releasing into the atmosphere and transported to the Paramount Petroleum Refinery for recycling, respectively. This Site-Specific Waste Discharge Requirements (WDR) will cover the injection of Ivey-sol<sup>®</sup>.
10. During the proposed pilot tests up to 27.5 gallons of an Ivey-sol<sup>®</sup> solution (between 0.6 and 1.2 %) will be injected into designated groundwater monitoring wells per day. It is estimated that no more than 4,400 gallons of Ivey-sol<sup>®</sup> solutions will be injected into groundwater during the pilot tests.
11. The Discharger proposes two contingency actions if monitoring indicates that surfactant is detected outside the treatment area. The first action involves stopping immediately the injection of surfactants, and the second one proposes to flush down up to 100 gallons of potable water into designated downgradient wells to create a hydraulic gradient barrier. This barrier will prevent further migration of surfactants outside the treatment area. After this implementation, surfactants are expected to naturally biodegrade in a few weeks.
12. Three active water production wells were identified within a 1-mile radius of the Site (Figure 4). The active wells are owned and operated by California Water Service Company (CWSC). The closest well is located approximately 1,500 feet north and upgradient of the Site and screened from 200 to 400 feet below ground surface (bgs), and has been in production since 1992. The second well is located approximately 2,000 feet southeast in the downgradient direction of the Site. This well is screened from 340 to 560 feet bgs and has been in production since 1994. The third well is located approximately 4,000 feet east/northeast in the crossgradient direction. This well is screened from

670 to 750 feet bgs. Groundwater analytical data available for the first two wells indicates that BTEX and methyl-tert-butyl ether (MTBE) concentrations were reported below the laboratory detection limits.

13. The Discharger performed computer modeling to estimate the travel time for the surfactant to reach the CWSC production wells. The modeling results indicated that the surfactants will not reach the production wells.
14. Any injection of a surfactant solution into groundwater is a discharge of waste as defined by the California Water Code. However, the discharge of surfactants is intended to provide more effective remediation of hydrocarbon impacted groundwater and is expected to significantly reduce the anticipated cleanup time as compared to the current free product recovery system at the Site.
15. The application of surfactants to groundwater may result in temporary adverse impacts to groundwater quality, but impacts that may result will be localized, and of short-term duration, and will not impact any existing or prospective uses of groundwater. According to the manufacturer, Ivey International Inc., the proposed surfactant to be used at the Site is verified to be biodegradable and safe for the proposed site application, with a biodegradability of greater than 90% in 28 days.
16. The Regional Board adopted a revised Water Quality Control Plan (Basin Plan) for the Los Angeles Region on June 13, 1994. The Basin Plan contains beneficial uses and water quality objectives for the Central Groundwater Basin. The requirements contained in this Order, as they are met, will be in conformance with the goals of the Basin Plan.
17. The designated beneficial uses of groundwater in the Central Groundwater Basin are municipal and domestic water supply, industrial service and process supply, and agricultural supply.
18. The permitted discharge is consistent with the anti-degradation provisions of State Water Resources Control Board Resolution No. 68-16 (Anti-degradation Policy). The discharge may result in some localized temporary exceedances of background concentrations of chemical substances in groundwater. However, after the injection of amendments, these parameters are not anticipated to exceed the primary or secondary standards to the extent that these parameters do not already exceed the respective standard. Moreover, any parameter change resulting from the discharge:
  - a. Will be consistent with maximum benefit to the people of the State.
  - b. Will not unreasonably affect present and anticipated beneficial uses of such water, and
  - c. Will not result in water quality less than that prescribed in the Water Quality Control Plan for the Central Groundwater Basin.
19. The Regional Board has assumed lead agency role for this project under the California Environmental Quality Act (CEQA) [Public Resources Code section 21000 et seq.] and has conducted an Initial Study in accordance with section 15063 of the "State CEQA Guidelines" at California Code of Regulations, title 14, section 15000 et seq. Based upon the Initial Study, the Regional Board prepared a Mitigated Negative Declaration that the project, as mitigated, will not have a significant adverse effect on the environment.

20. The Regional Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for this discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written comments and recommendations. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge and to the tentative requirements.

**IT IS HEREBY ORDERED** that Paramount Petroleum Corporation, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted there under, shall comply with the following:

**A. Discharge Limits**

1. The Discharger shall not cause the groundwater outside of the treatment zone, including the identified petroleum hydrocarbon plume in groundwater (as defined by the remediation progress monitoring wells, Figure 3) to exceed background concentrations of chemical substances in groundwater established prior to start of the proposed discharge.
2. The discharge of surfactant Ivey-sol<sup>®</sup> solution into the groundwater shall be only performed while this Order is in force.
3. During the pilot tests, the injection volume for the application of surfactant Ivey-sol<sup>®</sup> shall not exceed 4,400 gallons unless approved by the Executive Officer in advance. The concentration of the injected Ivey-sol<sup>®</sup> solution shall be between 0.6 and 1.2 percent. Actual volumes of surfactant Ivey-sol<sup>®</sup> solution will be monitored and recorded for each injection location, as well as summed for the entire program.
4. The Discharger shall not cause the groundwater to contain concentrations of chemical substances or its by-products in amounts that adversely affect any designated beneficial use, outside the application area or treatment zone. The Discharger shall not cause the groundwater outside the treatment zone to exceed water quality objectives as defined in the Basin Plan.
5. The amendment solution shall be limited to potable water, extracted groundwater, and surfactant Ivey-sol<sup>®</sup> solution specified in the Evaluation/Work plan (item 8 above) and addendums as approved. The amendments will consist of a mixture of water with surfactant Ivey-sol<sup>®</sup>.
6. Discharge duration shall not exceed five years, unless approved in writing by the Executive Officer in advance.

**B. Discharge Specifications**

1. The Discharger shall stop further addition of surfactants to the groundwater if it is observed to be migrating beyond the treatment area. To prevent further migration of surfactants, potable water will be flushed down into designated wells to create a hydraulic barrier. After this control measure has been implemented the remaining surfactants in the groundwater will naturally break down.

2. The Discharger shall not cause the surfactant and the by-products of the remediation process to migrate outside of the treatment area established by the Discharger and approved by the Executive Officer.
3. The discharge of the surfactant or any by-products into any surface water or surface water drainage course is prohibited.
4. The Discharger shall not cause the groundwater to contain taste or odor producing substances in concentrations that cause nuisance or adversely affect beneficial uses outside the treatment area.
5. The Discharger shall not cause the groundwater to contain concentrations of chemical substances or its by-products, including the surfactants in amounts that adversely affect any designated beneficial use as a result of the injection of surfactant Ivey-sol<sup>®</sup> solution.
6. The Discharger shall implement hydraulic control to prevent off-site migration if necessary.

**C. Provisions:**

1. This Order includes the attached "Standard Provisions Applicable to Waste Discharge Requirements," which is incorporated herein by reference. If there is any conflict between provisions stated herein before and the attached "Standard Provisions," those provisions stated herein shall prevail.
2. Discharge of wastes to any point other than specifically described in this Order is prohibited and constitutes a violation thereof.
3. In the event of any change in name, ownership, remediation operation, or control of the Site, the Discharger shall notify this Regional Board in writing and shall notify any succeeding owner or operator of the existence of this Order by a letter, a copy of which shall be forwarded to this Regional Board within 30 days of the change.
4. A copy of these requirements shall be maintained at an on-site office and be available at all times to operating personnel.
5. In accordance with section 13260 of the California Water Code, the Discharger shall file a report of any material change or proposed change in the character, location, or volume of discharge.
6. The Discharger shall notify Regional Board immediately by telephone of any adverse condition resulting from this discharge or from operations producing this waste discharge, such notifications to be affirmed in writing within one week from the date of such occurrence.
7. This Regional Board considers the Discharger and operator of the Site remediation system to have continuing responsibility of correcting any problem that may arise in the future as a result of this discharge.

8. All work must be performed by or under the direction of a California registered civil engineer, professional geologist, or registered certified specialty geologist. A statement is required in all technical reports that the registered professional in direct responsible charge actually supervised or personally conducted all the work associated with the project.
9. The use of a surfactant shall not cause a condition of pollution or nuisance as defined by California Water Code, section 13050.
10. The Discharger shall comply with all conditions of this Order, including timely submittal of technical and monitoring reports as specified in the attached Monitoring and Reporting Program No. CI-9643. Violations of any conditions may result in enforcement action, including Regional Board or Court Order requiring corrective action or imposition of civil monetary liability, or revision, or termination of the Order.
11. This Order does not exempt the Discharger from compliance with any other laws, regulations, or ordinances, which may be applicable. This Order does not legalize the waste treatment Site, and leaves unaffected any further restraints on the Site that may be contained in other statutes or required by other agencies.
12. The Discharger shall cleanup and abate the effects of injecting surfactants as specified in this Order, including extraction of any by-products that adversely affect beneficial uses, and shall provide an alternate water supply source for municipal, domestic, or other water use wells that become contaminated in exceedance of water quality objectives as a result of discharge.
13. In accordance with section 13263 of the California Water Code, these requirements are subject to periodic review and revision by this Regional Board.
14. After notice and opportunity for a hearing, this Order may be terminated or modified for cause including, but not limited to:
  - a. Violation of any term or condition contained in this Order.
  - b. Obtaining this Order by misrepresentation, or failure to disclose all relevant facts.
  - c. A change in any condition that requires either a temporary or permanent reduction or elimination of authorized discharge.
15. The Regional Board, through its Executive Officer, will modify the Monitoring and Reporting Program, as necessary. The CEQA Initial Study and associated public comment were conducted once as part of the Waste Discharge Requirement (WDR) permit application process and will not be required for the expansion or modification of this remediation program.

**D. Expiration Date**

This Order expires on May 5, 2016.

The Discharger must file a Report of Waste Discharge in accordance with title 27, California Code of Regulations, not later than 180 days in advance of such date as application for issuance of new waste discharge requirements.

I, Samuel Unger, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Los Angeles Region on May 5, 2011.

  
Samuel Unger, PE  
Executive Officer

STANDARD PROVISIONS  
APPLICABLE TO WASTE DISCHARGE REQUIREMENTS

1. DUTY TO COMPLY

The discharger must comply with all conditions of these waste discharge requirements. A responsible party has been designated in the Order for this project, and is legally bound to maintain the monitoring program and permit. Violations may result in enforcement actions, including Regional Board orders or court orders requiring corrective action or imposing civil monetary liability, or in modification or revocation of these waste discharge requirements by the Regional Board. [CWC Section 13261, 13263, 13265, 13268, 13300, 13301, 13304, 13340, 13350]

2. GENERAL PROHIBITION

Neither the treatment nor the discharge of waste shall create a pollution, contamination or nuisance, as defined by Section 13050 of the California Water Code (CWC). [H&SC Section 5411, CWC Section 13263]

3. AVAILABILITY

A copy of these waste discharge requirements shall be maintained at the discharge facility and be available at all times to operating personnel. [CWC Section 13263]

4. CHANGE IN OWNERSHIP

The discharger must notify the Executive Officer, in writing at least 30 days in advance of any proposed transfer of this Order's responsibility and coverage to a new discharger containing a specific date for the transfer of this Order's responsibility and coverage between the current discharger and the new discharger. This agreement shall include an acknowledgement that the existing discharger is liable for violations up to the transfer date and that the new discharger is liable from the transfer date on. [CWC Sections 13267 and 13263]

5. CHANGE IN DISCHARGE

In the event of a material change in the character, location, or volume of a discharge, the discharger shall file with this Regional Board a new Report of Waste Discharge. [CWC Section 13260(c)]. A material change includes, but is not limited to, the following:

- (a) Addition of a major industrial waste discharge to a discharge of essentially domestic sewage, or the addition of a new process or product by an industrial facility resulting in a change in the character of the Waste.

November 7, 1990  
WDR

Standard Provisions Applicable to  
Waste Discharge Requirements

- (b) Significant change in disposal method, e.g., change from a land disposal to a direct discharge to water, or change in the method of treatment which would significantly alter the characteristics of the waste.
- (c) Significant change in the disposal area, e.g., moving the discharge to another drainage area, to a different water body, or to a disposal area significantly removed from the original area potentially causing different water quality or nuisance problems.
- (d) Increase in flow beyond that specified in the waste discharge requirements.
- (e) Increase in the area or depth to be used for solid waste disposal beyond that specified in the waste discharge requirements. [CCR Title 23 Section 2210]

6. REVISION

These waste discharge requirements are subject to review and revision by the Regional Board. [CCR Section 13263]

7. TERMINATION

Where the discharger becomes aware that it failed to submit any relevant facts in a Report of Waste Discharge or submitted incorrect information in a Report of Waste Discharge or in any report to the Regional Board, it shall promptly submit such facts or information. [CWC Sections 13260 and 13267]

8. VESTED RIGHTS

This Order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, do not protect the discharger from his liability under Federal, State or local laws, nor do they create a vested right for the discharger to continue the waste discharge. [CWC Section 13263(g)]

9. SEVERABILITY

Provisions of these waste discharge requirements are severable. If any provision of these requirements are found invalid, the remainder of the requirements shall not be affected. [CWC Section 921]

Standard Provisions Applicable to  
Waste Discharge Requirements

10. OPERATION AND MAINTENANCE

The discharger shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the discharger to achieve compliance with conditions of this Order. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this Order. [CWC Section 13263(f)]

11. HAZARDOUS RELEASES

Except for a discharge which is in compliance with these waste discharge requirements, any person who, without regard to intent or negligence, causes or permits any hazardous substance or sewage to be discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, shall, as soon as (a) that person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the Office of Emergency Services of the discharge in accordance with the spill reporting provision of the State toxic disaster contingency plan adopted pursuant to Article 3.7 (commencing with Section 8574.7) of Chapter 7 of Division 1 of Title 2 of the Government Code, and immediately notify the State Board or the appropriate Regional Board of the discharge. This provision does not require reporting of any discharge of less than a reportable quantity as provided for under subdivisions (f) and (g) of Section 13271 of the Water Code unless the discharger is in violation of a prohibition in the applicable Water Quality Control plan. [CWC Section 1327(a)]

12. PETROLEUM RELEASES

Except for a discharge which is in compliance with these waste discharge requirements, any person who without regard to intent or negligence, causes or permits any oil or petroleum product to be discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, shall, as soon as (a) such person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the Office of Emergency Services of the discharge in accordance with the spill reporting provision of the State oil spill contingency plan adopted pursuant to Article 3.5 (commencing with Section 8574.1) of Chapter 7 of Division 1 of Title 2 of the Government Code. This provision does not require reporting of any discharge of less than 42 gallons unless the discharge is also required to be reported pursuant to Section 311 of the Clean Water Act or the discharge is in violation of a prohibition in the applicable Water Quality Control Plan. [CWC Section 13272]

Standard Provisions Applicable to  
Waste Discharge Requirements

13. ENTRY AND INSPECTION

The discharger shall allow the Regional Board, or an authorized representative upon the presentation of credentials and other documents as may be required by law, to:

- (a) Enter upon the discharger's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Order;
- (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order;
- (c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and
- (d) Sample or monitor at reasonable times, for the purposes of assuring compliance with this Order, or as otherwise authorized by the California Water Code, any substances or parameters at any location. [CWC Section 13267]

14. MONITORING PROGRAM AND DEVICES

The discharger shall furnish, under penalty of perjury, technical monitoring program reports; such reports shall be submitted in accordance with specifications prepared by the Executive Officer, which specifications are subject to periodic revisions as may be warranted. [CWC Section 13267]

All monitoring instruments and devices used by the discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year, or more frequently, to ensure continued accuracy of the devices. Annually, the discharger shall submit to the Executive Office a written statement, signed by a registered professional engineer, certifying that all flow measurement devices have been calibrated and will reliably achieve the accuracy required.

Unless otherwise permitted by the Regional Board Executive officer, all analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. The Regional Board Executive Officer may allow use of an uncertified laboratory under exceptional circumstances, such as when the closest laboratory to the monitoring location is outside the State boundaries and therefore not subject to certification. All analyses shall be required to be conducted in accordance with the latest edition of "Guidelines Establishing Test Procedures for Analysis of Pollutants" [40CFR Part 136] promulgated by the U.S. Environmental Protection Agency. [CCR Title 23, Section 2230]

Standard Provisions Applicable to  
Waste Discharge Requirements

15. TREATMENT FAILURE

In an enforcement action, it shall not be a defense for the discharger that it would have been necessary to halt or to reduce the permitted activity in order to maintain compliance with this Order. Upon reduction, loss, or failure of the treatment facility, the discharger shall, to the extent necessary to maintain compliance with this Order, control production or all discharges, or both, until the facility is restored or an alternative method of treatment is provided. This provision applies, for example, when the primary source of power of the treatment facility fails, is reduced, or is lost. [CWC Section 13263(f)]

16. DISCHARGE TO NAVIGABLE WATERS

Any person discharging or proposing to discharge to navigable waters from a point source (except for discharge of dredged or fill material subject to Section 404 of the Clean Water Act and discharge subject to a general NPDES permit) must file an NPDES permit application with the Regional Board. [CCR Title 2 Section 22357]

17. ENDANGERMENT TO HEALTH AND ENVIRONMENT

The discharger shall report any noncompliance which may endanger health or the environment. Any such information shall be provided verbally to the Executive Officer within 24 hours from the time the discharger becomes aware of the circumstances. A written submission shall also be provided within five days of the time the discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected; the anticipated time it is expected to continue and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The Executive officer, or an authorized representative, may waive the written report on a case-by-case basis if the oral report has been received within 24 hours. The following occurrence(s) must be reported to the Executive Office within 24 hours:

- (a) Any bypass from any portion of the treatment facility.
- (b) Any discharge of treated or untreated wastewater resulting from sewer line breaks, obstruction, surcharge or any other circumstances.
- (c) Any treatment plan upset which causes the effluent limitation of this Order to be exceeded. [CWC Sections 13263 and 13267]

18. MAINTENANCE OF RECORDS

The discharger shall retain records of all monitoring information including all calibration and maintenance records, all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and record of all data used

Standard Provisions Applicable to  
Waste Discharge Requirements

to complete the application for this Order. Records shall be maintained for a minimum of three years from the date of the sample, measurement, report, or application. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Board Executive Officer.

Records of monitoring information shall include:

- (a) The date, exact place, and time of sampling or measurement;
  - (b) The individual(s) who performed the sampling or measurement;
  - (c) The date(s) analyses were performed;
  - (d) The individual(s) who performed the analyses;
  - (e) The analytical techniques or method used; and
  - (f) The results of such analyses.
19. (a) All application reports or information to be submitted to the Executive Office shall be signed and certified as follows:
- (1) For a corporation - by a principal executive officer or at least the level of vice president.
  - (2) For a partnership or sole proprietorship - by a general partner or the proprietor, respectively.
  - (3) For a municipality, state, federal, or other public agency - by either a principal executive officer or ranking elected official.
- (b) A duly authorized representative of a person designated in paragraph (a) of this provision may sign documents if:
- (1) The authorization is made in writing by a person described in paragraph (a) of this provision.
  - (2) The authorization specifies either an individual or position having responsibility for the overall operation of the regulated facility or activity; and
  - (3) The written authorization is submitted to the Executive Officer.

Any person signing a document under this Section shall make the following certification:

Standard Provisions Applicable to  
Waste Discharge Requirements

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. [CWC Sections 13263, 13267, and 13268]"

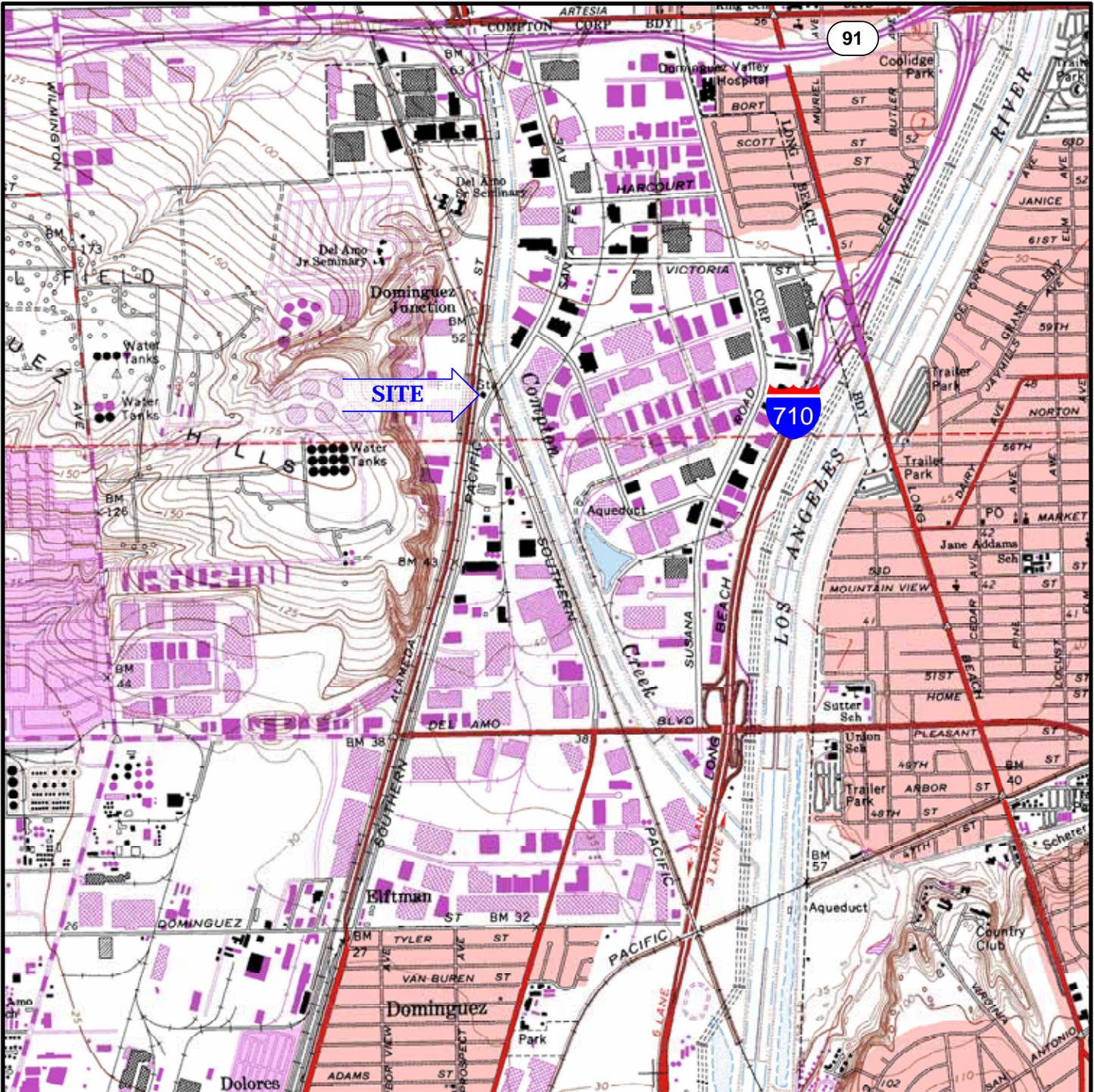
20. OPERATOR CERTIFICATION

Supervisors and operators of municipal wastewater treatment plants and privately owned facilities regulated by the PUC, used in the treatment or reclamation of sewage and industrial waste shall possess a certificate of appropriate grade in accordance with Title 23, California Code of Regulations Section 3680. State Boards may accept experience in lieu of qualification training. In lieu of a properly certified wastewater treatment plant operator, the State Board may approve use of a water treatment plant operator of appropriate grade certified by the State Department of Health Services where reclamation is involved.

Each plan shall be operated and maintained in accordance with the operation and maintenance manual prepared by the municipality through the Clean Water Grant Program [CWC Title 23, Section 2233(d)]

ADDITIONAL PROVISIONS APPLICABLE TO  
PUBLICLY OWNED TREATMENT WORKS' ADEQUATE CAPACITY

21. Whenever a publicly owned wastewater treatment plant will reach capacity within four years the discharger shall notify the Regional Board. A copy of such notification shall be sent to appropriate local elected officials, local permitting agencies and the press. The discharger must demonstrate that adequate steps are being taken to address the capacity problem. The discharger shall submit a technical report to the Regional Board showing flow volumes will be prevented from exceeding capacity, or how capacity will be increased, within 120 days after providing notification to the Regional Board, or within 120 days after receipt of notification from the Regional Board, of a finding that the treatment plant will reach capacity within four years. The time for filing the required technical report may be extended by the Regional Board. An extension of 30 days may be granted by the Executive Officer, and longer extensions may be granted by the Regional Board itself. [CCR Title 23, Section 2232]



LONG BEACH 033118f2 QUADRANGLE

<b>RMT</b> 601 W 5th St Ste 760 Los Angeles CA 90071		SITE <b>GATX GX-145 RELEASE</b> <b>18905 S SANTA FE AVE</b> <b>COMPTON, CA 90221</b>		SIZE A	CLIENT  <b>Paramount Petroleum</b>	SHEET TITLE <b>SITE VICINITY MAP</b>	REV
DRAWN CPD	APPROVED BY: AL		PROJECT <b>00-06639.05</b>	SCALE <b>1 : 24000</b>	SITEVICINITYMAP.VSD	FIGURE NO <b>1</b>	



- W-11 Paramount groundwater/product recovery well
- W-02 Selected LA County Fire well (adjacent site)  
*these wells were not purged, sampled, or analytically tested*
- Surfactant Injection Well
- HVDPE Recovery Well
- Flushing (Barrier) Well
- A., B., C. Group A, B, C wells (see tentative WDR MRP)

Based on the results of the first event, RMT may change the IWs, RWs, BWs and other monitoring wells.

 1010 E. Union St 2nd Fl Pasadena, CA 91106	SITE <b>GATX GX-145 RELEASE</b> 18905 S Santa Fe Ave Rancho Dominguez CA 90221	SIZE LGL	CLIENT 	SHEET TITLE <b>PILOT TEST SITE PLAN          FIRST EVENT</b>	REV
	DRAWN CPD APPROVED BY: GK	PROJECT 01656.05.018		2011_Q1_FIG_PPC.VSD	
SCALE  0 ft 80 ft					



- W-11 Paramount groundwater/product recovery well
- W-02 Selected LA County Fire well (adjacent Site)  
*these wells were not purged, sampled, or analytically tested*
- Inferred Extent of Apparent Free Product
- Apparent Free Product Thickness (Feet)
- No product
- Not Measured

	SITE <b>GATX GX-145 RELEASE</b> 18905 S Santa Fe Ave Rancho Dominguez CA 90221	SIZE		SHEET TITLE		REV
		LGL		<b>ESTIMATED EXTENT OF FREE-PHASE HYDROCARBON PRODUCT</b> August 16, 2010		
DRAWN CPD APPROVED BY: AL		PROJECT 00-06639.05	2010_Q3_FIG_PPC.VSD	FIGURE NO	5	
SCALE  0 ft to 80 ft						



# Site and Receptor Map



## GATX-GX-145 Release 18900 South Santa Fe Avenue Rancho Dominguez

-  SCP Site
-  Production Wells
-  Schools

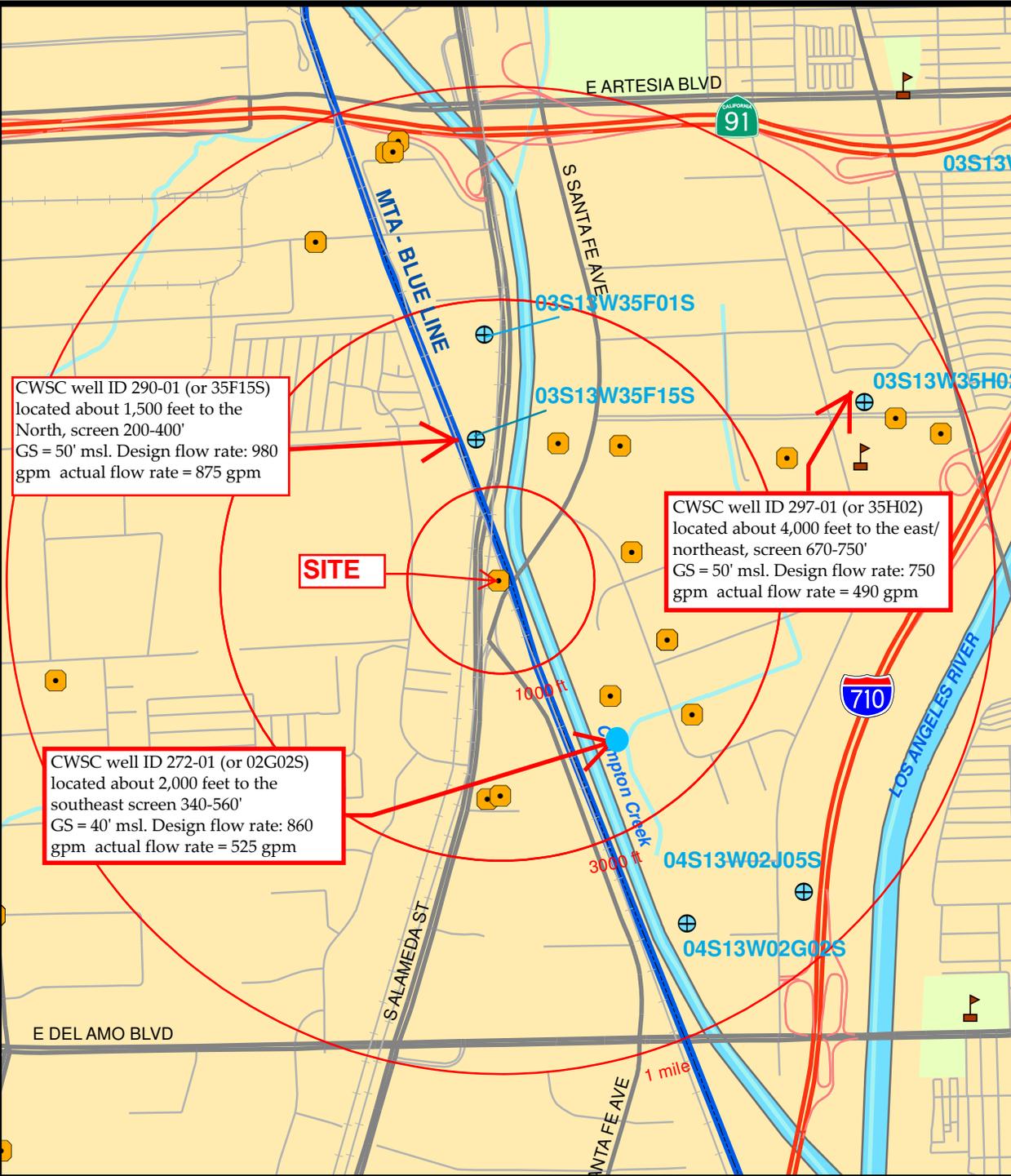
### FIGURE 2

Source: RWQCB, 2011



Scale 1:20,000

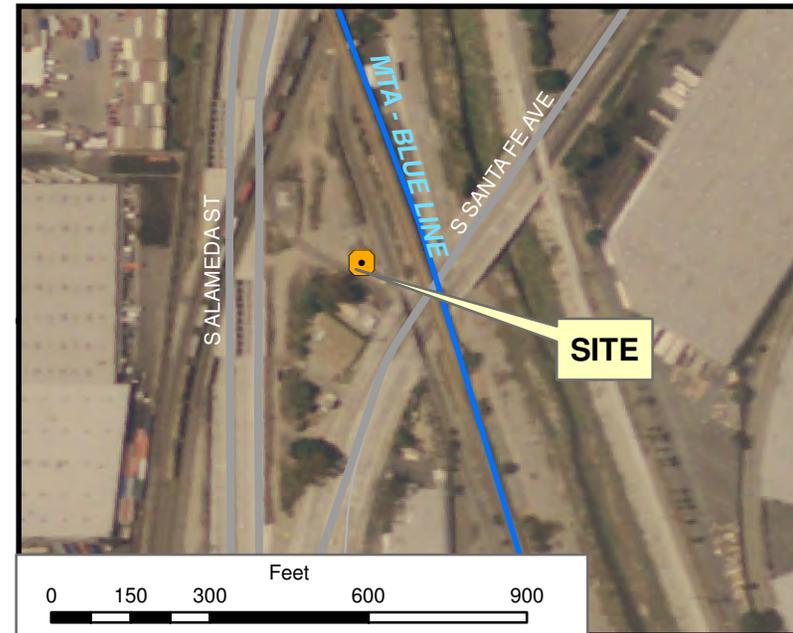
Feet



CWSC well ID 290-01 (or 35F15S) located about 1,500 feet to the North, screen 200-400' GS = 50' msl. Design flow rate: 980 gpm actual flow rate = 875 gpm

CWSC well ID 297-01 (or 35H02) located about 4,000 feet to the east/northeast, screen 670-750' GS = 50' msl. Design flow rate: 750 gpm actual flow rate = 490 gpm

CWSC well ID 272-01 (or 02G02S) located about 2,000 feet to the southeast screen 340-560' GS = 40' msl. Design flow rate: 860 gpm actual flow rate = 525 gpm



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

**MONITORING AND REPORTING PROGRAM NO. CI-9643  
FOR  
PARAMOUNT PETROLEUM CORPORATION  
GX-145 PIPELINE RELEASE AREA  
RANCHO DOMINGUEZ, CALIFORNIA**

**(FILE NO. 98-135, SCP NO. 0532B)**

The Discharger shall implement this monitoring and reporting program (MRP) on the effective date of Order No. R4-2011-0089.

**I. GROUNDWATER MONITORING PROGRAM**

It is anticipated that injection activities will be initiated in the third quarter of 2011. Monitoring of the injection of surfactant Ivey-sol<sup>®</sup> shall consist of samples collected from the following groundwater wells:

Injection Wells (IW):	W-06, W-07 to be used for the initial pilot test. Additional wells will be determined in subsequent pilot tests, according to the list of wells proposed in <i>Pilot Study Implementation Plan</i> dated July 21, 2010, which is a supporting document to Form 200 submitted for the Site.
Recovery Wells (RW):	W-05, W-8, W-09, W-10, W-13, W-12, <i>MWID*</i> to be used for the initial pilot test. Additional wells will be determined in subsequent pilot tests, according to the list of wells proposed in <i>Pilot Study Implementation Plan</i> dated July 21, 2010.
Clean Water Flushing Wells (FWs)	W-11, W-21, W-22, <i>MW5D*</i> , <i>MW6D*</i> to be used for the initial pilot test, if necessary. Additional existing wells will be added in the upgradient direction as FWs, if needed. Additional wells will be determined in subsequent pilot tests, according to the list of wells proposed in <i>Pilot Study Implementation Plan</i> dated July 21, 2010.
Group A (Downgradient Area):	W-20, <i>B'8MW*</i> , <i>B'11MW*</i> , <i>MW-2D*</i> to be used for the initial pilot test. Additional wells will be determined in subsequent pilot tests, according to the list of wells proposed in <i>Pilot Study Implementation Plan</i> dated July 21, 2010.
Group B (Upgradient Area):	W-01, W-02, W-03 to be used for the initial pilot test. Additional wells will be determined in subsequent pilot tests, according to the list of wells proposed in <i>Pilot Study Implementation Plan</i> dated July 21, 2010.
Group C (Crossgradient Area)	W-23, W-14 (or W-14a) to be used for the initial pilot test. Additional wells will be determined in subsequent pilot tests, according to the list of wells proposed in <i>Pilot Study Implementation Plan</i> dated July 21, 2010.

\* Wells from adjacent property (Los Angeles County Fire Station No. 105) are shown in italics.

Figure 1 shows the Site location. Groundwater monitoring wells located at the Site and the adjacent properties are shown in Figure 2. IWs and RWs are located in the treatment zone where injection and multi-phase extraction (MPE) will be conducted. Group A wells are located in the downgradient area from the treatment zone, group B wells are located in the upgradient area, and group C wells are located in the crossgradient area.

Groundwater samples will be collected once from selected IWs, RWs, FWs, Groups A, B, and C wells prior to injection (baseline). If necessary after the surfactant injection, clean potable water will be flushed into the FWs to create a hydraulic barrier to prevent migration of surfactants outside the treatment area.

Once injection ends and the pilot test/MPE is shut-down, groundwater samples shall be collected and analyzed in accordance with the following program.

CONSTITUENT	UNITS	TYPE OF SAMPLE	MINIMUM FREQUENCY OF ANALYSIS
Total Daily Injections of Surfactant and Clean Water	Liters (L) or Gallons (G)	Measurement	Per injection
Depth to Groundwater	Feet below ground surface (ft bgs)	In situ	<u>All wells listed as IWs, RWs, FWs, Groups A, B and C: Baseline, 1 hour, 1 week,, and monthly (1st, 2<sup>nd</sup>) after MPE shutdown</u>
Groundwater Elevation	Feet above mean sea level	Calculation	
Depth to Free Product	ft bgs	In-situ	
Field parameters: pH, DO ORP EC Temperature TDS Ferrous (II ) iron, Turbidity	pH units, µg/L mV µS/cm °C/°F µg/L µg/L NTU	Grab	<u>All wells listed as IWs, RWs, FWs, Groups A, B and C: Baseline, 1 hour, 1 week,, and monthly (1st, 2<sup>nd</sup>) after MPE shutdown</u>
Alkalinity, methane, and anions (sulfate, nitrate, nitrite, and chloride)	µg/L	Grab	<u>IWs and RWs: Baseline; 1 hour, 1 week,, and monthly (1st, 2<sup>nd</sup>) after MPE shutdown</u> <u>FWs: Baseline, 1 week and monthly (1st, 2<sup>nd</sup>) after MPE shutdown</u> <u>Groups A, B, and C: Baseline, and monthly (1st, 2<sup>nd</sup>) after MPE shutdown</u>
TOC	µg/L	Grab	<u>IWs and RWs: Baseline; 1 hour, 1 week,, and monthly (1st, 2<sup>nd</sup>) after MPE shutdown</u>
TPH-HN, TPH-ORO, TPH-DRO, TPH-GRO, BTEX, MTBE, and TBA using EPA Method 8015B/8260B	µg/L	Grab	<u>IWs and RWs: Baseline, 1 hour, 1 week,, and monthly (1st, 2<sup>nd</sup>) after MPE shutdown</u> <u>FWs: Baseline, 1 week and monthly (1st, 2<sup>nd</sup>) after MPE shutdown</u> <u>Groups A, B, and C: Baseline, and monthly (1st, 2<sup>nd</sup>) after MPE shutdown</u>
Qualitative surfactant concentrations using plate glass	Presence or absence	Grab	<u>IWs, RWs, and FWs: Baseline; 1 hour, 1 week, and monthly (1st, 2<sup>nd</sup>) after MPE shutdown</u> <u>Groups A, B, and C: Baseline, and monthly (1st, 2<sup>nd</sup>) after MPE shutdown</u>
Quantitative readings for CTAS/non-ionic surfactants using EPA Method SM5540D	µg/L	Grab	<u>IWs and RWs: Baseline; 1 hour, 1 week, and monthly (1st, 2<sup>nd</sup>) after MPE shutdown</u> <u>FWs: Baseline, 1 week and monthly (1st, 2<sup>nd</sup>) after MPE shutdown</u> <u>Groups A, B, and C: Baseline, and monthly (1st, 2<sup>nd</sup>) after MPE shutdown</u>

**Notes:**

TPH-DRO = total petroleum hydrocarbons extractable diesel-range organics (C10 to C28)  
 TPH-GRO = total petroleum hydrocarbons gasoline-range organics (C6 to C10)  
 TPH-HN = total petroleum hydrocarbons heavy naphtha (C10 to C28+)  
 TPH-ORO = total petroleum hydrocarbons heavy extractable oil-range organics (C28+)  
 BTEX = benzene, toluene, ethylbenzene, and xylenes  
 MTBE = methyl-tert-butyl ether  
 TBA = tert-butyl alcohol  
 CTAS = cobalt thiocyanate active substances

**II. SURFACTANT INJECTION REPORTING REQUIREMENTS**

The monitoring reports shall contain the following information regarding injection/extraction activities:

- a. Measurement of vacuum, extraction flow rates, groundwater elevations (drawdown);
- b. Quantity and date of surfactant and clean water injected;
- c. Concentration of surfactant injected; and
- d. Total amount of surfactant injected.

**III. GROUNDWATER MONITORING REPORTING REQUIREMENTS**

The Discharger is required to submit MRP reports that include data collected during the sampling events. All groundwater monitoring reports must include, at a minimum, the following:

- a. Well identification, date and time of sampling;
- b. Sampler identification and laboratory identification; and
- c. Routine observation of groundwater elevations, recorded to 0.01 feet above mean sea level (ft amsl) and groundwater flow direction.

All groundwater monitoring wells shall be gauged and sampled as outlined in Sections I and II, and results shall be reported to the California Regional Water Quality Control Board, Los Angeles Region (Regional Board) under the MRP for the Individual Waste Discharge Requirements according to the following schedule for the first pilot test:

<b>Reporting Period</b>	<b>Sampling Schedule</b>	<b>Report Due Date</b>
July – September 2011	Baseline: Prior to surfactant injection Post-Injection: 1 hour, and 1 week after injection event.	October 31, 2011
October – December 2011	Post Injection: Monthly ( 1 <sup>st</sup> and 2 <sup>nd</sup> )	January 31, 2012

Any future changes in additional/subsequent pilot tests, sampling, and reporting schedule will be provided in a revised MRP issued by the Regional Board in advance. If there is no discharge or injection during the reporting period, the report shall so state. Groundwater monitoring reports must be uploaded to GeoTracker, with hard copies addressed to the Regional Board, Attention: Information Technology Unit.

Whenever wastes associated with the discharge under this Order are transported to a different disposal site, the following shall be reported in the monitoring report: type and quantity of wastes; name and address of the hauler (or transport method if other than by hauling); and of the final disposal location(s).

#### IV. CERTIFICATION STATEMENT

Each report shall contain the following completed declaration:

"I certify under penalty of law that this document, including all attachments and supplemental information, was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment."

Executed on the \_\_\_\_ day of \_\_\_\_\_ at \_\_\_\_\_.

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Title)

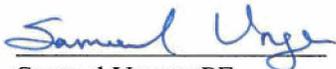
#### V. MONITORING FREQUENCIES

Specifications in this MRP are subject to periodic revisions. Monitoring requirements may be modified or revised by the Executive Officer based on review of monitoring data submitted pursuant to this Order. Monitoring frequencies may be adjusted to a less frequent basis or parameters and locations dropped by the Executive Officer if the Discharger makes a request and the request is backed by statistical trends of monitoring data submitted. Monitoring frequencies may also be modified for subsequent pilot tests.

#### VI. PUBLIC DOCUMENTS

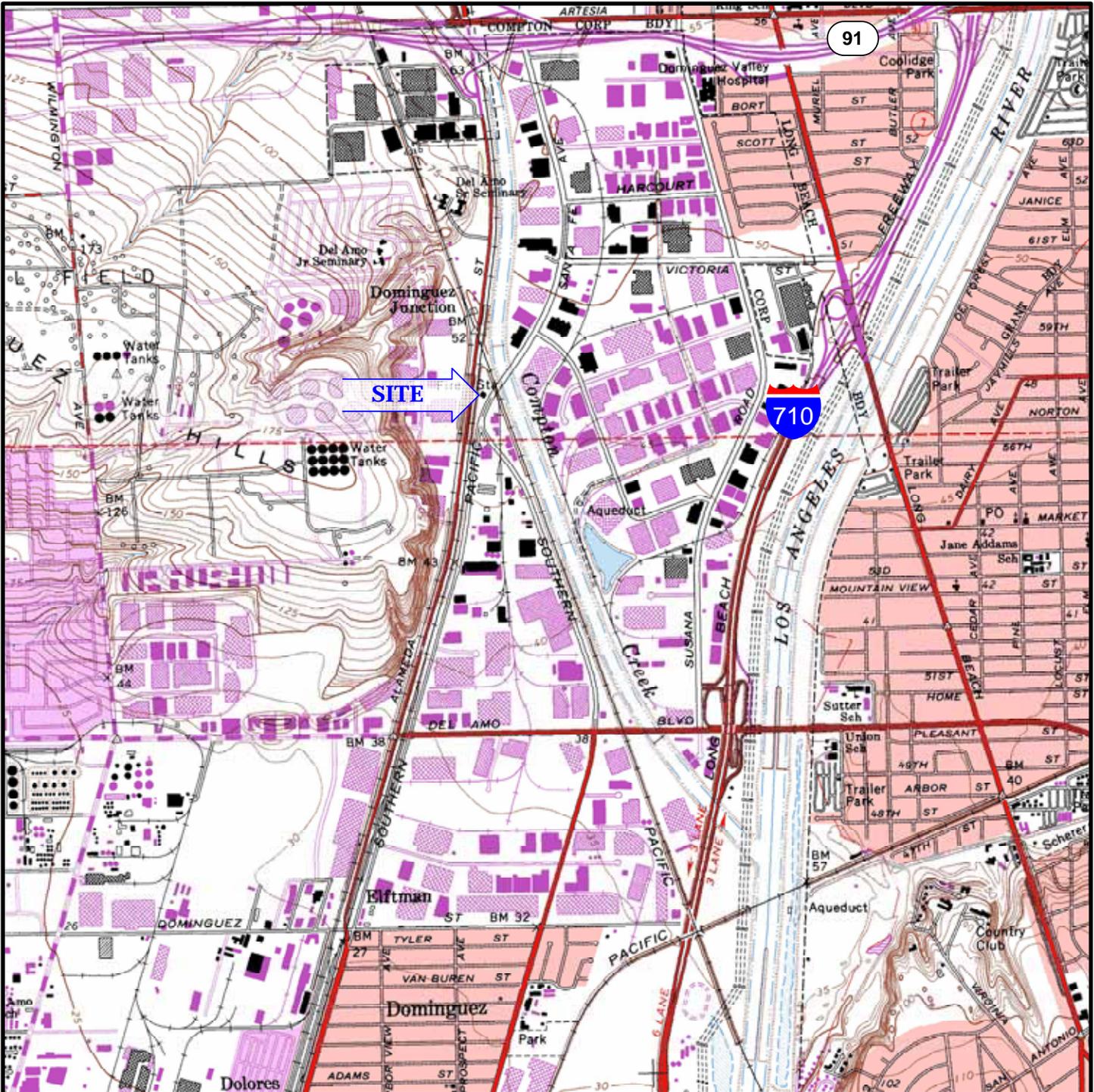
All records and reports submitted in compliance with this Order are public documents and shall be made available for inspection during normal business hours at the Regional Board office, upon request by interested parties. Only proprietary information, and only at the request of the Discharger will be treated as confidential.

Ordered by:



Samuel Unger, PE  
Executive Officer

Date: May 5, 2011



LONG BEACH 033118f2 QUADRANGLE

<b>RMT</b> 601 W 5th St Ste 760 Los Angeles CA 90071		SITE <b>GATX GX-145 RELEASE</b> <b>18905 S SANTA FE AVE</b> <b>COMPTON, CA 90221</b>		SIZE A	CLIENT  <b>Paramount Petroleum</b>	SHEET TITLE <b>SITE VICINITY MAP</b>	REV
DRAWN CPD	APPROVED BY: AL		PROJECT <b>00-06639.05</b>	SCALE 1 : 24000	SITEVICINITYMAP.VSD	FIGURE NO <b>1</b>	



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- A., B., C. Group A, B, C wells (see tentative WDR MRP)

Based on the results of the first event, RMT may change the IWs, RWs, BWs and other monitoring wells.

 1010 E. Union St 2nd Fl Pasadena, CA 91106	SITE <b>GATX GX-145 RELEASE</b> 18905 S Santa Fe Ave Rancho Dominguez CA 90221	SIZE LGL	 CLIENT <b>Paramount Petroleum</b>	SHEET TITLE <b>PILOT TEST SITE PLAN          FIRST EVENT</b>	REV
	DRAWN CPD APPROVED BY: GK	PROJECT 01656.05.018		2011_Q1_FIG_PPC.VSD	

