



EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIGUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Los Angeles Regional Water Quality Control Board

September 27, 2012

Mr. Madu Chanani
Narms Baba Corporation
2448 Sepulveda Boulevard
Torrance, CA 90501

**GENERAL WASTE DISCHARGE REQUIREMENTS FOR GROUNDWATER CLEANUP AT
PETROLEUM HYDROCARBON FUEL, VOLATILE ORGANIC COMPOUND AND/OR
HEXAVALENT CHROMIUM IMPACTED SITES (ORDER NO. R4-2007-0019)
FORMER ALPINE VILLAGE TEXACO DBA ALPINE SHELL
701 WEST TORRANCE BOULEVARD, TORRANCE, CALIFORNIA
(CI-9743, SERIES NO. 167); (UST FILE NO. R-24881A)**

Dear Mr. Chanani:

We have completed our review of your application for coverage under the General Waste Discharge Requirements (WDR) utilizing In-situ chemical oxidation (ISCO) with sodium persulfate and sodium hydroxide application at the subject site. The purpose of the injection is to mitigate fuel constituents present in soil and groundwater beneath the site in order to minimize the threat to the underlying aquifers.

Narms Baba Corporation (hereinafter Discharger) owns and operates the facility (site) located at the corner of Torrance Boulevard and Hamilton Avenue in Torrance, California (Figures 1 and 2) (Latitude: N 33° 50' 32", Longitude: W 118° 17' 13"). The site is currently an operating Alpine Shell gasoline service station that contains one 12,000-gallon gasoline, one 10,000-gallon gasoline, one 10,000-gallon diesel underground storage tanks (USTs) and nine dispensers. The site formerly contained one 1,000-gallon waste oil tank and nine dispensers which were removed in 2006. Subsequently, the nine dispensers were replaced. The site also includes a convenience store with a Subway Sandwich shop and car wash. The property is partially on a former landfill that underlies the majority of the adjacent parking lot to the north.

Several site investigations were conducted at the site between 1995 and 2011, which included waste oil tank removal, dispenser and piping replacement and upgrade activities, installation of groundwater monitoring wells, two phase extraction (TPE) wells, injection wells, and vadose zone monitoring wells. Site investigations found that the soil and groundwater beneath the site have been impacted by fuel constituents. A total of eleven groundwater monitoring wells (MW-1 through MW-11) are located at the site. A groundwater monitoring program was initiated in July 2009. The most recent monitoring data (June 2012) showed the maximum total petroleum hydrocarbons as gasoline (TPH_G) concentrations at 6,400 µg/L, total petroleum hydrocarbons as diesel (TPH_D) at 2,700 µg/L, total recoverable petroleum hydrocarbons (TRPH) at 2,100 µg/L, benzene at 690 µg/L, methyl tertiary butyl ether (MTBE) at 54,800 µg/L and tertiary butyl alcohol (TBA) at 34,000 µg/L. Depth to groundwater was measured at approximately 36 feet bgs and groundwater flow direction has varied from southeast to northeast and is currently toward the east.

MARIA MEHRANIAN, CHAIR | SAMUEL UNGER, EXECUTIVE OFFICER

320 West 4th St., Suite 200, Los Angeles, CA 90013 | www.waterboards.ca.gov/losangeles

Your consultant, Petcon, submitted a remedial action plan (RAP) dated January 25, 2011, for the subject site and proposed to mitigate the contaminated soil and groundwater beneath the site by utilizing In-situ chemical oxidation (ISCO) by injecting sodium persulfate and sodium hydroxide beneath the subsurface. To treat the vadose zone, Petcon proposed to combine ISCO and TPE/recirculation. Groundwater and vapor would be extracted from existing monitoring wells or from selected ISCO application wells and the groundwater will be re-injected into proposed vadose zone injection/recirculation wells. Petcon proposed not to treat the extracted groundwater prior to reinjection. Petcon further proposed to install In-situ oxygen curtain (ISOC) diffusers in monitoring wells and inject oxygen in the wells to enhance biodegradation.

The general WDR only allows treated groundwater to be re-injected into the same aquifer. In a Regional Board staff directive letter dated March 30, 2011, the RAP was approved, provided that a separate WDR be obtained to cover reinjection of treated extracted groundwater into the same aquifer.

In June 2011, a total of eleven ISCO injection wells (IW-1 through IW-11), three vapor monitoring wells (VMW-1 through VMW-3) and two TPE wells (VEW-1 and VEW-2) were installed. In addition, Petcon conducted a bench-scale treatability test using high pH activated sodium persulfate. Based on bench test results, Petcon concluded that high pH activation is capable of significant reductions in VOC concentrations in the soil and groundwater.

In a RAP Addendum dated September 6, 2011, Petcon proposed not to re-inject extracted groundwater into the subsurface during chemical oxidation and TPE events. The original RAP proposed to inject approximately 256 gallons of persulfate solution and 566 gallons of sodium hydroxide into each injection well. In the RAP Addendum, Petcon indicated that based on bench test results, the dosage of sodium persulfate and sodium hydroxide will be modified to inject 257 gallons of sodium persulfate and 850 gallons of sodium hydroxide into each injection well (Figure 3). Petcon proposed to address the remaining fuel constituents in the soil and groundwater using ISCO and TPE. Groundwater extracted during TPE will be transported offsite for treatment and recycling. Eleven ISCO injection wells (IW-1 through IW-11) will be used to introduce sodium persulfate and sodium hydroxide into the formation (Figure 3). In a Regional Board staff directive letter dated March 29, 2012, the RAP Addendum was approved.

Regional Board staff has determined that the proposed discharge meets the conditions specified in Order No. R4-2007-0019, "*Revised General Waste Discharge Requirements for Groundwater Remediation at Petroleum Hydrocarbon Fuel, Volatile Organic Compound and/or Hexavalent Chromium Impacted Site (General WDRs)*" adopted by the Los Angeles Regional Water Quality Control Board on March 1, 2007.

Enclosed are the Waste Discharge Requirements, consisting of Regional Board Order No. R4-2007-0019, Monitoring and Reporting Program No. CI-9743, and Standard Provisions.

The WDRs issued shall not be terminated until Regional Board staff determines the WDRs are no-longer needed for the site cleanup.

The Monitoring and Reporting Program No. CI-9743 requires you to implement the monitoring program on the effective date of this enrollment under Regional Board Order No. R4-2007-0019. When submitting monitoring or technical reports to the Regional Board per these requirements, ~~please do not combine other reports with your monitoring reports.~~ Submit each type of report as a separate document.

MARIA MEHRANIAN, CHAIR | SAMUEL UNGER, EXECUTIVE OFFICER

320 West 4th St., Suite 200, Los Angeles, CA 90013 | www.waterboards.ca.gov/losangeles

We are sending a copy of Order No. R4-2007-0019 only to the applicant. A copy of the Order will be furnished to anyone who requests it. A copy of the Order can also be found online at: http://www.waterboards.ca.gov/losangeles/board_decisions/adopted_orders/general_orders/r4-2007-0019/r4-2007-0019.pdf

In accordance with regulations adopted by the State Water Resource Control Board (State Board) in September 2004 regarding electronic submittal of information (ESI), the Discharger has been electronically submitting Underground Storage Tank Program (UST) technical reports to the State Board GeoTracker system under the UST Global ID T0603778569. To comply with this Monitoring & Reporting Program (MRP), the Discharger shall upload the MRP monitoring reports to the Geotracker under the two Global ID T0603778569 (continuing) and WDR100000547 (new). For more information regarding the WDR Global ID, please see the ESI training video at: <https://waterboards.webex.com/waterboards/ldr.php?AT=pb&SP=MC&rID=44145287&rKey=7dad4352c990334b>.

To avoid paying future annual fees, please submit a written request for termination of your enrollment under the general permit in a separate letter, when your project has been completed and the permit 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.

If you have any questions regarding the WDRs, please contact Mr. Eric Wu at (213) 620-6683 or ewu@waterboards.ca.gov. Questions regarding the underground storage tank issues should be forwarded to Ms. Chandra Tyler at (213) 576-6782 or cetyler@waterboards.ca.gov.

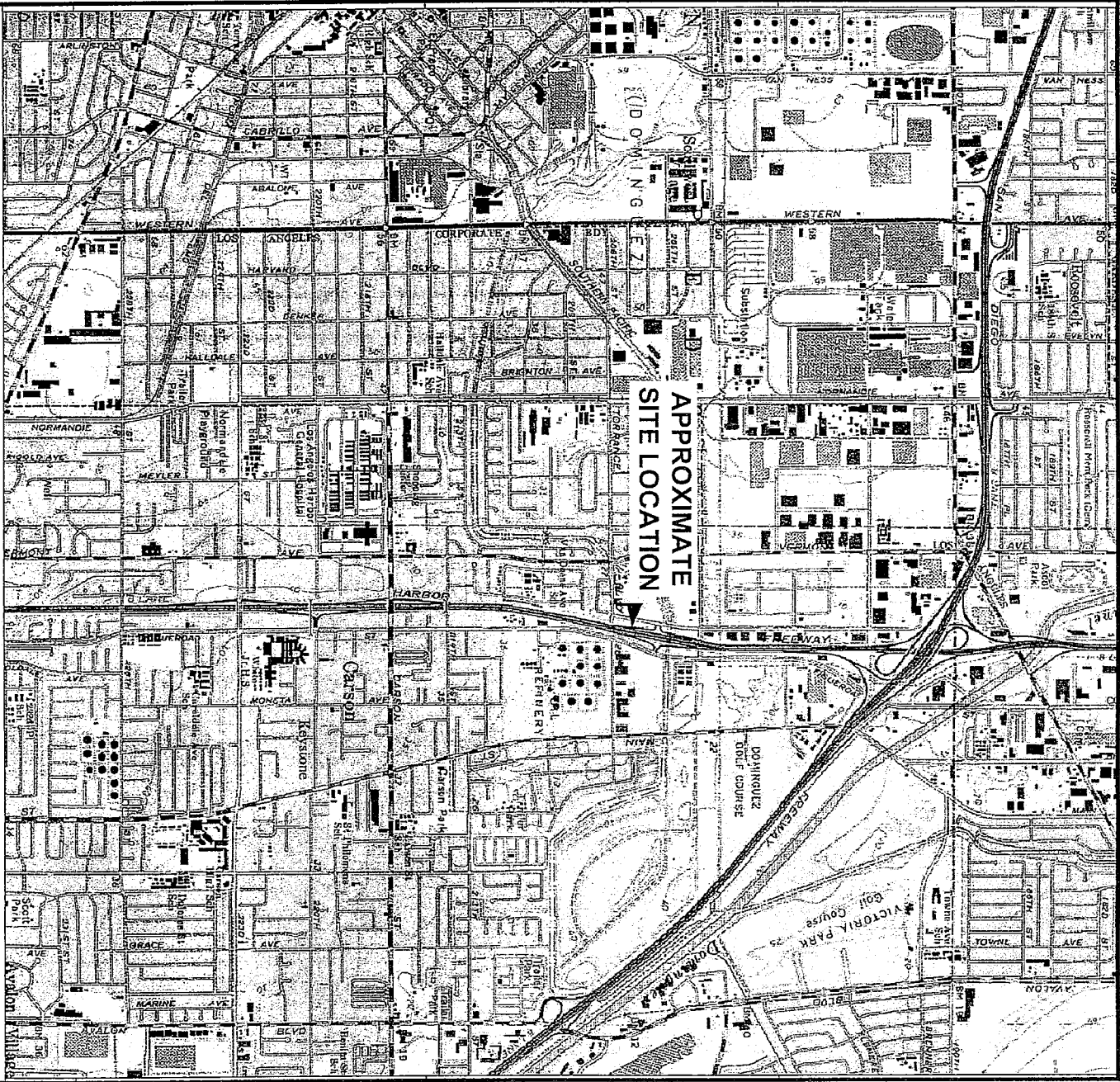
Sincerely,



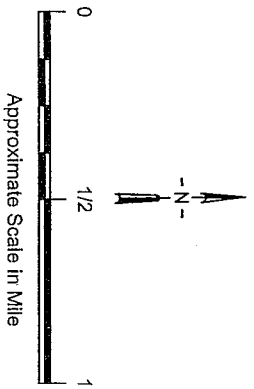
Samuel Unger, P.E.
Executive Officer

- Enclosures: 1. Board Order No. R4-2007-0019
2. Monitoring and Reporting Program No. CI-9743
3. Standard Provisions

cc: Kathy Jundt, State Water Resources Control Board, UST Cleanup Fund
Phuong Ly, Water Replenishment District of Southern California
Tim Smith, County of Los Angeles Department of Public Works, Envr. Programs
Richard Lavin, Los Angeles County Department of Public Health, Envr. Health – DWP
Oytun Turumtay, Petcon Technologies, Inc.
Mehmet Pehlivan, Petcon Technologies, Inc.



NOTE:
 1. All locations and dimensions are approximate.
 2. Map created with TOPO 2003 National Geographic.
 (www.nationalgeographic.com/topo)

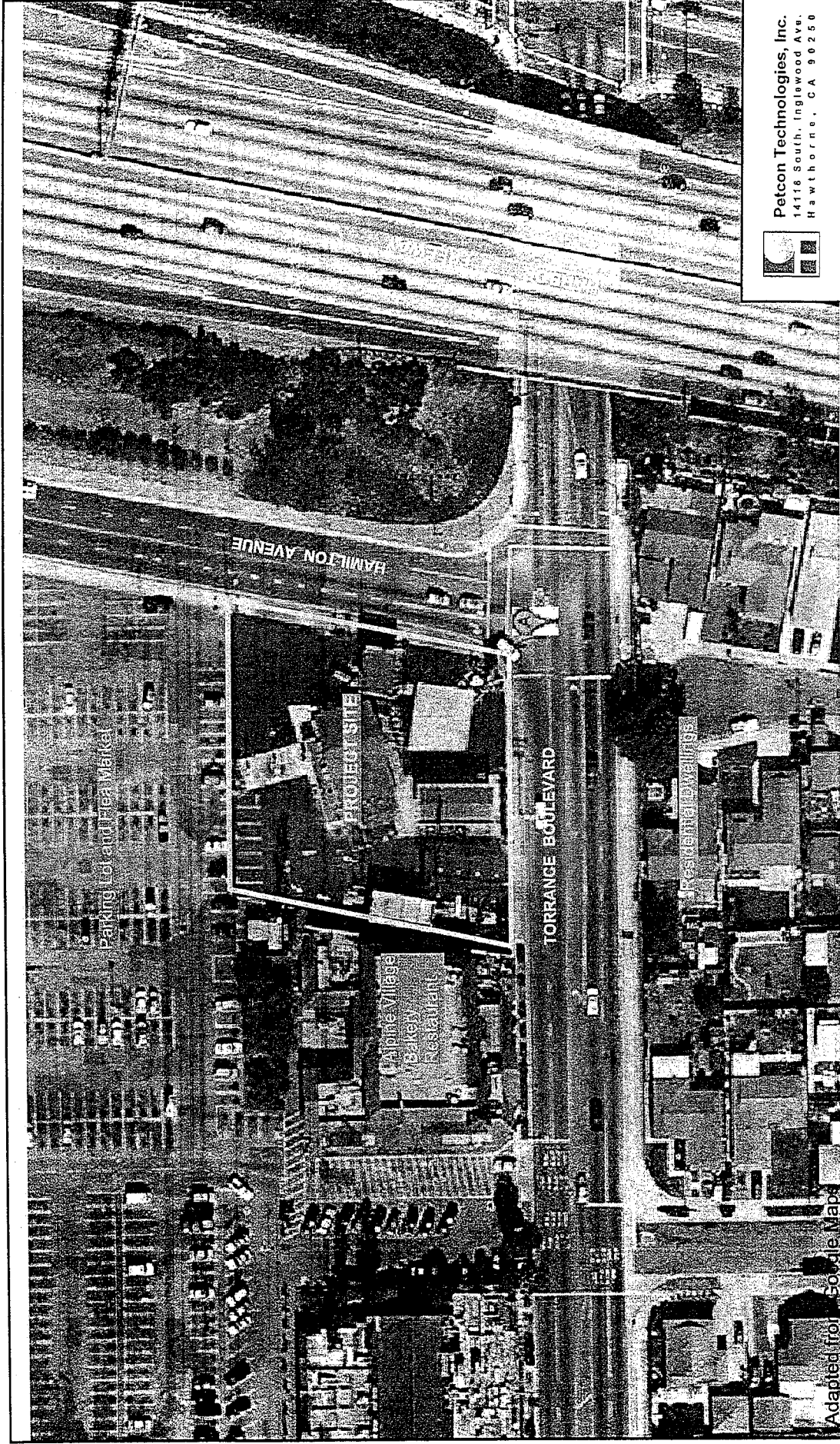


ALPINE SHELL STATION
 701 West Torrance Blvd.
 Torrance, California

SITE LOCATION MAP
 FIGURE 1



Petcon Technologies, Inc.
 14118 South Inglewood Ave.
 Hawthorne, CA 90250



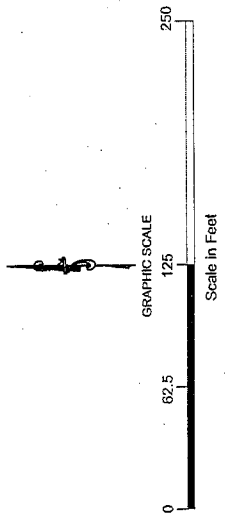
Petcon Technologies, Inc.
 14118 South Inglewood Ave.
 Hawthorne, CA 90250

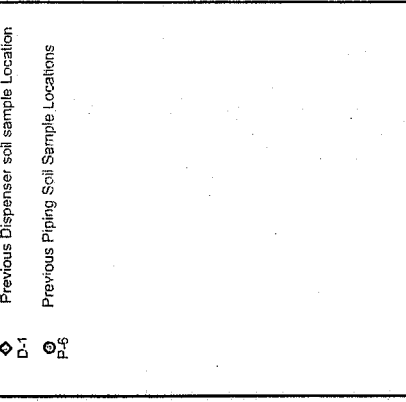
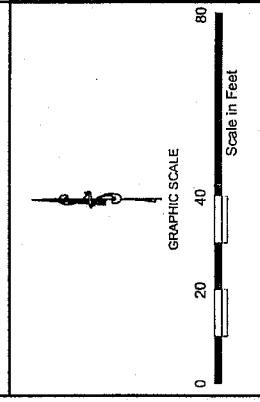
Project No. 1049-Alpine
 Engr./Geol. MP
 Drafted By. JC
 Date June 2012

SITE VICINITY MAP
 ALPINE SHELL STATION
 701 West Torrance Blvd.
 Torrance, California

FIGURE 2

Adapted from Google Maps



<p>LEGEND:</p> <ul style="list-style-type: none"> ⊙ B2 Boring Location ⊕ MW11 Monitoring Well Location ⊕ MW11 ISCO Injection Wells ⊕ MW11 Vapor extraction / two phase extraction well ⊕ VEW1 / TPE1 Vapor Monitoring / Passive Air Injection Well ⊕ MW11 Previous Dispenser soil sample Location ⊕ D-1 Previous Piping Soil Sample Locations ⊕ P-6 	 <p>GRAPHIC SCALE Scale in Feet</p>	 <p>Petcon Technologies, Inc. 14118 South Inglewood Ave. Hawthorne, CA 90250</p>	<p>Project No. 1049-Alpine Approx. Scale: 1" = 40' Engr./Geol. MP Drafted By: SY Date: August 2011</p>	<p>SITE PLAN ALPINE SHELL STATION 701 West Torrance Blvd. Torrance, California</p>
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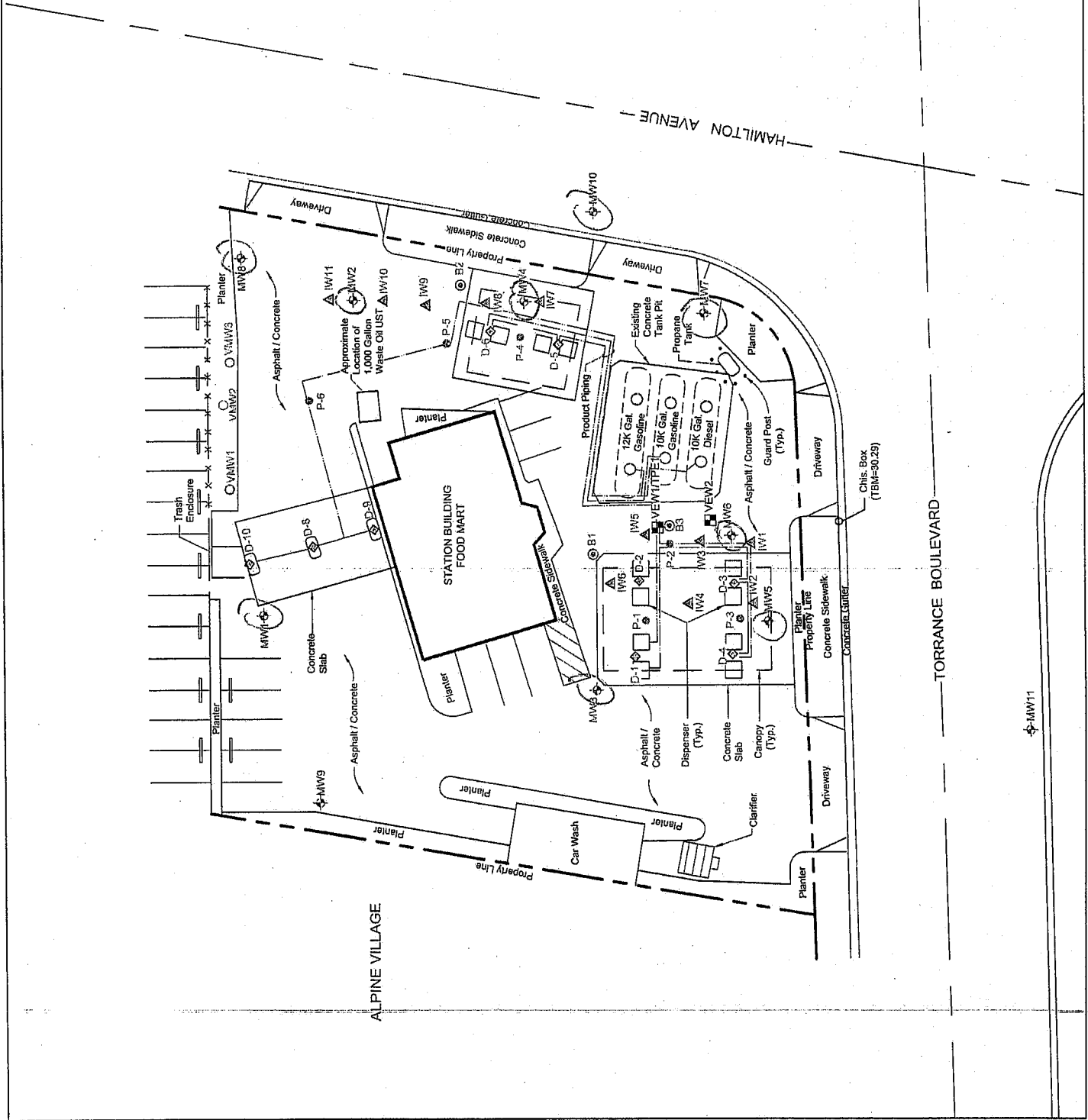


FIGURE 3

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION
MONITORING AND REPORTING PROGRAM NO. CI-9743
FOR
FORMER ALPINE VILLAGE TEXACO DBA ALPINE SHELL
701 WEST TORRANCE BOULEVARD, TORRANCE, CA
ENROLLMENT UNDER REGIONAL BOARD
(ORDER NO. R4-2007-0019, SERIES NO. 167)

I. REPORTING REQUIREMENTS

- A. Narms Baba Corporation (hereinafter Discharger) shall implement this monitoring program on the effective date of the enrollment under Regional Board Order No. R4-2007-0019. The first monitoring report under this program, for July - December 2011, shall be received at the Regional Board by **January 15, 2013**. Subsequent monitoring reports shall be received at the Regional Board according to the following schedule:

<u>Reporting Period</u>	<u>Sampling Period</u>	<u>Report Due Date</u>
January – June	April – June	July 15 th
July – December	October – December	January 15 th

- B. If there is no discharge or injection during any reporting period, the report shall so state. Monitoring reports must be addressed to the Regional Board.
- C. By March 1 of each year, the Discharger shall submit an annual summary report to the Regional Board. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous calendar year. In addition, the Discharger shall explain the compliance record and the corrective actions taken or planned, which may be needed to bring the discharge into full compliance with the waste discharge requirements (WDR).
- D. Laboratory analyses – all chemical, bacteriological, and toxicity analyses shall be conducted at a laboratory certified for such analyses by the California Department of Health Services Environmental Laboratory Accreditation Program (ELAP). A copy of the laboratory certification shall be provided each time a new and/or renewal certification is obtained from ELAP.
- E. The method limits (MLs) employed for effluent analyses shall be lower than the permit limits established for a given parameter, unless the Discharger can demonstrate that a particular ML is not attainable and obtains approval for a higher ML from the Regional Board Executive Officer (Executive Officer). The Discharger shall submit a list of the analytical methods employed for each test and the associated laboratory quality assurance/quality control (QA/QC) procedures upon request by the Regional Board.

- F. Groundwater samples must be analyzed within allowable holding time limits as specified in 40 CFR Part 136. All QA/QC samples must be run on the same dates when samples were actually analyzed. The Discharger shall make available for inspection and/or submit the QA/QC documentation upon request by Regional Board staff.
- G. Each monitoring report must affirm in writing that "All analyses were conducted at a laboratory certified for such analyses by the California Department of Health Services, and in accordance with current United States Environmental Protection Agency (USEPA) guideline procedures or as specified in this Monitoring Program." Proper chain of custody procedures must be followed and a copy of the completed chain of custody form shall be submitted with the report.
- H. Each monitoring report shall contain a separate section titled "Summary of Non-Compliance" which discusses the compliance record and the corrective actions taken or planned that may be needed to bring the discharge into full compliance with WDRs. This section shall be located at the front of the report and shall clearly list all non-compliance with WDRs, as well as all excursions of effluent limitations.
- I. The Discharger shall maintain all sampling and analytical results: date, exact place, and time of sampling; dates analyses were performed; analyst's name; analytical techniques used; and results of all analyses. Such records shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge, or when requested by the Regional Board.
- J. If the Discharger performs analyses on any groundwater samples more frequently than required by this Order using approved analytical methods, the results of those analyses shall be included in the report.
- K. In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized to demonstrate compliance with the requirements and, where applicable, shall include results of receiving water observations.
- L. The Discharger should not implement any changes to the Monitoring and Reporting Program prior to receiving Executive Officer's written approval.
- M. In accordance with regulations adopted by the State Water Resource Control Board (State Board) in September 2004 regarding electronic submittal of information (ESI), the Discharger has been electronically submitting Underground Storage Tank Program (UST) technical reports to the State Board GeoTracker system under the UST Global ID T0603778569. To comply with this Monitoring & Reporting Program (MRP), the Discharger shall upload the MRP monitoring reports to the Geotracker under the two Global ID T0603778569 (continuing) and WDR100000547 (new). For more information regarding the WDR Global ID, please see the ESI training video at: <https://waterboards.webex.com/waterboards/ldr.php?AT=pb&SP=MC&rID=44145287&rKey=7dad4352c990334b>.

II. DISCHARGE MONITORING REQUIREMENTS

The semi-annual reports shall contain the following information regarding the injection activities.

1. Location map showing injection points used for the injection activities.
2. Written and tabular summary defining:
 - Depth of injection points;
 - Quantity of sodium persulfate and sodium hydroxide injected at each injection point;
 - Days on which the injection system was in operation; and
 - Total amount of sodium persulfate and sodium hydroxide injected at the site.
3. Semi-annual visual inspection at each injection well shall be conducted to evaluate the well casing integrity after each injection. The semi-annual report shall include a summary of the visual inspection.
4. To avoid groundwater monitoring network reduction, data bias, and well screen clogging or alteration, no groundwater monitoring wells shall be used as injection points during the proposed injection. Separate injection points/wells must be installed at the site for the proposed injection. Additional injection points shall be reviewed and approved by the Regional Board.

III. GROUNDWATER MONITORING PROGRAM

A groundwater-monitoring program shall be designed to detect and evaluate impacts associated with the injection activities. The monitoring well network must include MW-1, MW-3 and MW-5 as upgradient wells; MW-2, MW-4, and MW-6 as source wells; and MW-7, MW-8, MW-10, and future proposed monitoring well MW-12 as downgradient wells (Figure 4). A baseline monitoring and sampling shall be conducted prior to the proposed injections. Baseline monitoring will establish the initial conditions with respect to the contaminant levels. These sampling stations shall not be changed and any proposed change of monitoring locations shall be identified and approved by the Regional Board Executive Officer (Executive Officer). The Discharger shall conduct a baseline sampling from all wells onsite one or two weeks prior to the proposed injection and regular sampling with the required frequencies from all the monitoring wells in the monitoring network for the following constituents:

<u>CONSTITUENT</u>	<u>UNITS</u> ¹	<u>TYPE OF SAMPLE</u>	<u>MINIMUM FREQUENCY OF ANALYSIS</u>
pH ²	pH units	grab	Semi-annually
Temperature ²	°F	grab	Semi-annually
Oxidation-reduction potential ²	Milivolts	grab	Semi-annually

Specific conductivity ²	µmhos/cm	grab	Semi-annually
Ferrous iron	µg/L	grab	Semi-annually
Dissolved Oxygen ²	µg/L	grab	Semi-annually
Total Petroleum Hydrocarbons (as gasoline)	µg/L	grab	Semi-annually
Benzene	µg/L	grab	Semi-annually
Ethylbenzene	µg/L	grab	Semi-annually
Toluene	µg/L	grab	Semi-annually
Total xylenes	µg/L	grab	Semi-annually
MTBE	µg/L	grab	Semi-annually
TBA	µg/L	grab	Semi-annually
TAME	µg/L	grab	Semi-annually
DIPE	µg/L	grab	Semi-annually
ETBE	µg/L	grab	Semi-annually
Ethanol	µg/L	grab	Semi-annually
Naphthalene	µg/L	grab	Semi-annually
Methane	µg/L	grab	Semi-annually
Formaldehyde	µg/L	grab	Semi-annually
Acetates	µg/L	grab	Semi-annually
Total organic carbon	µg/L	grab	Semi-annually
Total dissolved solids	mg/l	grab	Semi-annually
Arsenic	mg/L	grab	Semi-annually
Bromide	mg/L	grab	Semi-annually
Sulfate	mg/L	grab	Semi-annually
Chloride	mg/L	grab	Semi-annually
Boron	mg/L	grab	Semi-annually
Sodium	mg/L	grab	Semi-annually
Carbon dioxide	mg/L	grab	Semi-annually
Manganese	µg/L	grab	Semi-annually

Total iron	µg/L	grab	Semi-annually
Alkalinity	µg/L	grab	Semi-annually
Total chromium ³	µg/L	grab	Semi-annually
Chromium six ³	µg/L	grab	Semi-annually

¹ mg/L: milligrams per liter; µg/L: micrograms per liter; µmhos/cm: microohms per centimeter; °F: degree Fahrenheit.
² Field instrument may be used to measure this parameter.
³ The Discharger is required to monitor for total chromium and chromium six in the baseline, second and fourth semi-annual sampling. If detected at any of these sampling events, the total chromium and chromium six must be monitored semi-annually thereafter.

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;
- c. Semi-annual observation of groundwater levels, recorded to 0.01 feet mean sea level and groundwater flow direction.

IV. MONITORING FREQUENCIES

Specifications in this monitoring program 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.

V. 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)"

VI. PUBLIC DOCUMENTS

These records and reports are public documents and shall be made available for inspection during business hours at the office of the California Regional Water Quality Control Board, Los Angeles Region, upon request by interested parties.

Ordered by: Samuel Unger
Samuel Unger, P.E.
Executive Officer

Date: September 27, 2012

LEGEND:

- ⊙ B2 Boring Location
- ⊕ MW11 Monitoring Well Location
- ⊕ IW11 ISCO Injection Wells
- ⊕ VEM1 / VPE1 Vapor extraction / two phase extraction well
- VAW1 Vapor Monitoring / Passive Air Injection Well
- ◇ D-1 Previous Dispenser soil sample Location
- ⊕ P-6 Previous Piping Soil Sample Locations
- (-7.88) Groundwater Elevation Above Mean Sea Level
- (-7.70)
- * Groundwater Elevation Contour Above Mean Sea Level
- * Data Not Used in Contour
- Groundwater Flow Direction Gradient: 0.003

Scale in Feet

0 20 40 80

GRAPHIC SCALE

Petcon Technologies, Inc.
14118 South Inglewood Ave.
Hawthorne, CA 90250

Project No. 1049-Alpine
Approx. Scale Approx. 1" = 40'
Engr./Geol. MP
Drafted By. JC
Date June 2012

GROUNDWATER ELEVATIONS
June 2012
ALPINE SHELL STATION
701 West Torrance Blvd.
Torrance, California

FIGURE 4

