



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. Jennifer Talbert
G&M Oil Company
16868 A Street
Huntington Beach, CA 92647

**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)
G&M OIL COMPANY STATION #57
4346 EAST IMPERIAL HIGHWAY, LYNWOOD, CALIFORNIA
(CI-9441, SERIES NO. 075); (UST FILE NO. R-25011)**

Dear Ms. Talbert:

We have completed our review of the application for coverage under the General Waste Discharge Requirements (WDR) for ozone sparge treatment. The purpose of the ozone treatment is to mitigate fuel constituents present in the groundwater beneath the subject site.

The site is an active G&M Oil gasoline service station (Site) located on the corner of Imperial Highway and Linden Street in Lynwood, California (Figure 1) (Latitude: N 33 ° 55' 51.3", Longitude: W 118 ° 11' 5.0"). The Site currently contains four underground storage tanks (USTs), three dispenser islands and a station building. The facility owner is Mr. George Pearson and the responsible party is G&M Oil Company.

Several site investigations were conducted at the Site between 1997 and 2005, which included UST removal and dispenser replacement, drilling of soil borings and the installation of groundwater monitoring wells. Site investigations found that the soil and groundwater beneath the Site have been impacted by fuel constituents. A quarterly groundwater monitoring program was initiated in April 1998. The most recent monitoring data (October 2010) showed the maximum total petroleum hydrocarbons as gasoline (TPH_G) up to 3,610 µg/L, benzene up to 261 µg/L, methyl tertiary butyl ether (MTBE) up to 5,970 µg/L and tertiary butyl alcohol (TBA) up to 16,200 µg/L. Free product (up to 0.20 feet) was measured in monitoring well MW-4.

The Ozone Sparge Pilot Test Workplan (Workplan) dated December 31, 2007, prepared by Atlas Environmental Engineering, Inc. (Atlas) proposed to utilize ozone sparge to remediate fuel constituents in the groundwater. Atlas proposed to install four ozone sparge wells (OSP-1 through OSP-4) and conduct a 90-day ozone sparge pilot test at the Site. Based on pilot test results, a full-scale application and treatment design for ozone sparging will be implemented. In a Regional Board staff directive letter dated March 8, 2008, the Workplan was approved. In June 2008, Atlas submitted the WDR application however, the application was not processed due to the presence of free product in monitoring well MW-4. According to the November 2008 sampling event, historical free product has been reduced from a thickness of 6.80 feet to 0.20 feet.

California Environmental Protection Agency

In a Workplan Addendum dated March 23, 2011, Atlas proposed to install three ozone sparge wells (OSP-1 through OSP-3) instead of the originally proposed four ozone sparge wells and to conduct the 90-day ozone sparge pilot test (Figure 2). The wells will be installed near monitoring wells MW-3, MW-4 and MW-6. In a Regional Board staff directive dated April 29, 2011, the Workplan Addendum was approved. In the approval, the ozone sparge treatment shall not begin until free product is removed. A more aggressive free product removal program would be implemented. To date, the free product has been greatly reduced. Therefore, the ozone injection can be implemented.

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-9441, 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 requires you to implement the monitoring program under Regional Board Order No. R4-2007-0019. All monitoring reports shall be sent to the Regional Board, ATTN: Information Technology Unit.

When submitting monitoring or technical reports to the Regional Board, please include a reference to Compliance File No. CI-9441 to assure that the reports are directed to the appropriate staff. Do not combine other reports with your monitoring reports complying with Order No. R4-2007-0019. Submit each type of report as a separate document.

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.

A copy of the Order will be furnished to anyone who requests it, or on line at:

[http://www.waterboards.ca.gov/losangeles/board decisions/adopted orders/general orders/r4-2007-0019/r4-2007-0019.pdf](http://www.waterboards.ca.gov/losangeles/board%20decisions/adopted%20orders/general%20orders/r4-2007-0019/r4-2007-0019.pdf).

If you have any questions, please contact Ms. Rebecca Chou at (213) 576-6618. Questions regarding the underground storage tank issues should be forwarded to Ms. Chandra Cansler-Tyler at (213) 576-6782 or email her at ccansler@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-9441
 3. Standard Provisions
 4. Figure 1 – Site Vicinity Map
 5. Figure 2 – OSP Locations

cc: Kathy Jundt, State Water Resources Control Board, UST Cleanup Fund
Nancy Matsumoto, 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,
Drinking Water Program
George Pearson, Property Owner
Jasmine Senn, Atlas Environmental Engineering, Inc.
Karl Kerner, Atlas Environmental Engineering, Inc.




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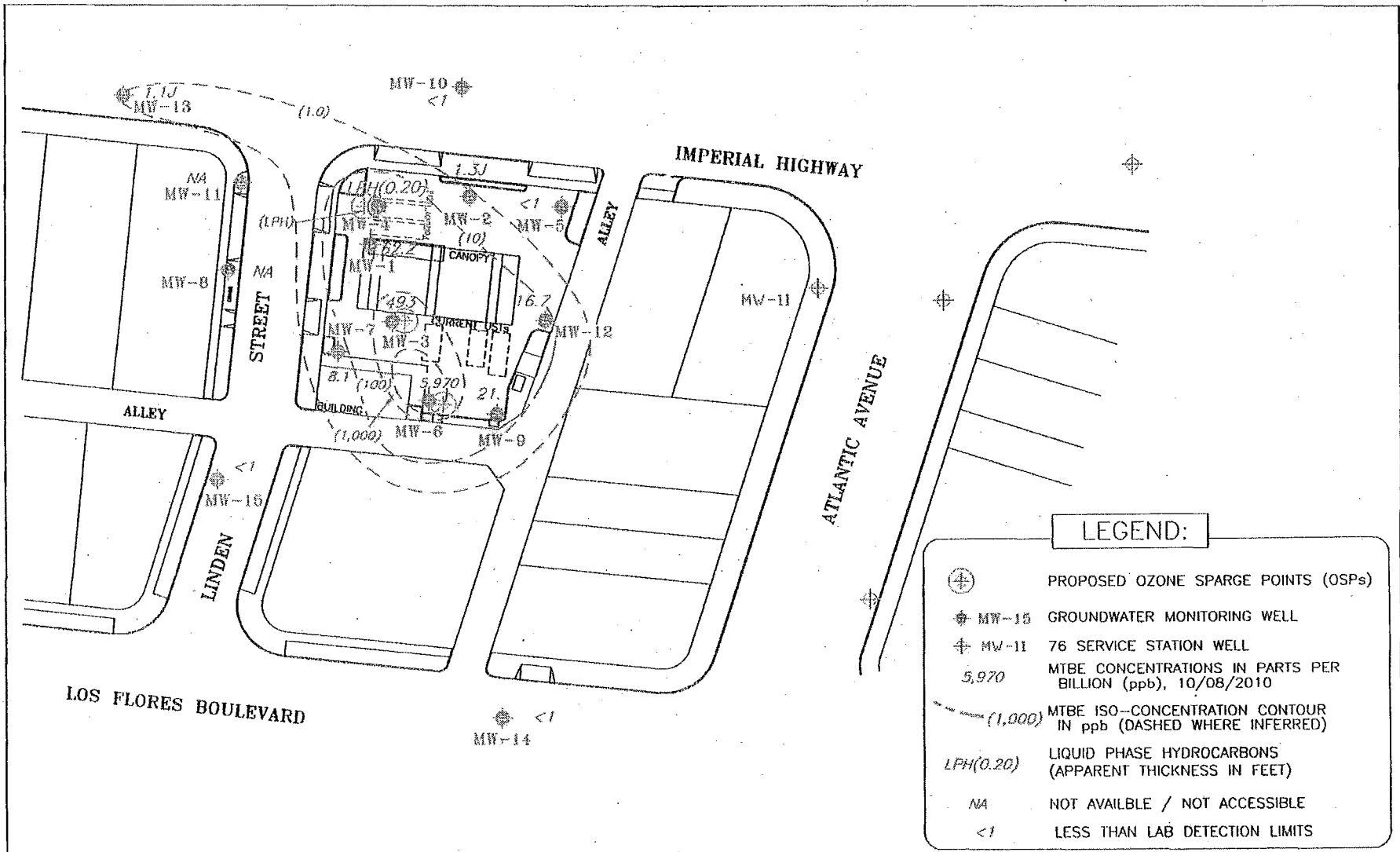
**G&M OIL COMPANY, INC.
 STATION # 57**

4346 EAST IMPERIAL HIGHWAY
 LYNWOOD, CA

SITE VICINITY MAP



FIGURE 1



Design By: S.P./K.B.

Drawn By: K.B./S.P.
 Date: 04/25/2001
 Rev: 11/15/2010

G&M OIL COMPANY, INC.
STATION #57

**REVISED
 PROPOSED
 OSP LOCATIONS**



- Environmental Products and Services
- Air/Water/Soil Permitting and Monitoring
- Site Assessment and Remediation
- Hazardous Waste Management

3185 ARROYO AVENUE, SUITE 0-1
 COSTA MESA, CA 92626
 PHONE: (714) 850-7129



4346 E. IMPERIAL HIGHWAY
LYNWOOD, CALIFORNIA

DRAWING NUMBER:
 G57-WP0ZF1

FIGURE 2

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION
MONITORING AND REPORTING PROGRAM NO. CI-9441
FOR
G&M OIL COMPANY STATION #57

4346 EAST IMPERIAL HIGHWAY, LYNWOOD, CA
ENROLLMENT UNDER REGIONAL BOARD
ORDER NO. R4-2007-0019
SERIES NO. 075

I. REPORTING REQUIREMENTS

- A. G&M Oil Company (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 January - June 2011, shall be received at the Regional Board by **July 15, 2011**. 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, Attention: Information Technology Unit.
- 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 the Executive Officer's written approval.
- M. The Discharger shall submit all reports required under this MRP, including groundwater monitoring data, to the State Water Resources Control Board GeoTracker database, in addition to submitting hard copies to the Regional Board office. Once the Discharger demonstrates mastery of electronic submittal of reports to GeoTracker for the Site, it may request that the Regional Board waive the requirement of submitting hard copies of reports.

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 ozone injected at each injection point;
 - Days on which the injection system was in operation; and
 - Total amount of ozone 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 ozone injection. Separate injection points/wells must be installed at the Site for the proposed injection.

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-2 MW-3 and MW-10 as upgradient wells; MW-1, MW-4 and MW-6 as source wells; and MW-14 and MW-15 as downgradient wells (refer to attached Figure 3). 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 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	Millivolts	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
Methane	µg/L	grab	Semi-annually
Formaldehyde	µg/L	grab	Semi-annually
Acetates	µg/L	grab	Semi-annually
Acetone	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 _____.

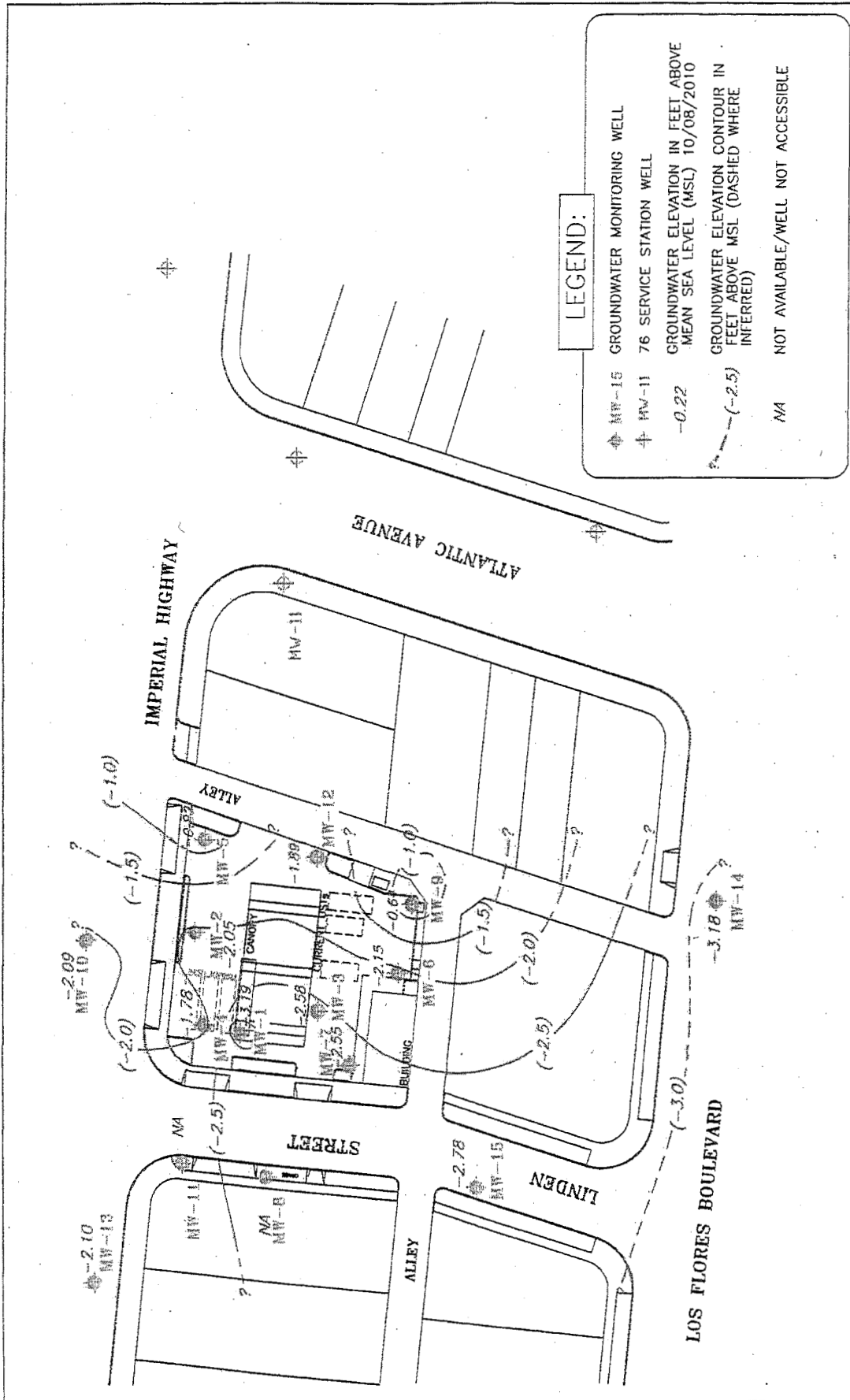
 (Signature)

 (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 Date: May 13, 2011
Samuel Unger, P.E.
Executive Officer



GROUNDWATER ELEVATION CONTOUR MAP

DRAWING NUMBER: G57410313

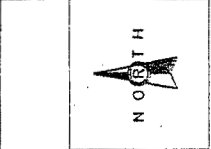
FIGURE 3

G&M OIL COMPANY, INC.
STATION #57

4346 E. IMPERIAL HIGHWAY
LYNWOOD, CALIFORNIA

Drawn By: K.B./S.P.
 Date: 04/25/2001
 Rev: 11/15/2010

0 SCALE 80' (PERMANENT DIMENSIONS)



Design By: S.P./K.B.

• Environmental Products and Services
 • Air/Water/Soil Permitting and Monitoring
 • Site Assessment and Remediation
 • Hazardous Waste Management

AMS
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