



California Regional Water Quality Control Board

Los Angeles Region



Linda S. Adams
Agency Secretary

Recipient of the 2001 *Environmental Leadership Award* from Keep California Beautiful

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Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address: <http://www.waterboards.ca.gov/losangeles>

Arnold Schwarzenegger
Governor

June 20, 2007

Mr. Garabet Kurbessoian
SM Service Station
16435 Figueroa Street
Los Angeles, CA 90248

**WORKPLAN APPROVAL AND 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)
SM SERVICE STATION, 16435 FIGUEROA STREET, LOS ANGELES, CA (SERIES NO. 019; CI-9264; UST FILE NO. 902480161)**

Dear Mr. Kurbessoian:

We have completed our review of a workplan (Workplan) dated March 12, 2007 and the application for coverage under General Waste Discharge Requirements to inject Fenton's Reagent materials into the groundwater to supplement the active remediation of the groundwater contamination plume beneath the subject site (Site). The Site is currently an active gasoline service within an area of mixed residential and commercial properties.

The Site is located within the Central Basin of the Los Angeles Coastal Plain Groundwater Basin. According to boring logs and cross section maps, the subsurface lithology of the Site consists of clayey silt and silty clay to a depth of approximately 50 feet below ground surface (bgs), with a sandy layer between 20 and 30 feet bgs.

A total of nine groundwater monitoring wells (MW-1 through MW-9) have been installed related to the Site. Groundwater monitoring has been conducted since February 2002. Historically, up to 141,000 µg/L of total petroleum hydrocarbons as gasoline (TPH_G), 136 µg/L of benzene, 805 µg/L of toluene, 5,070 µg/L of ethylbenzene, 19,650 µg/L of xylenes, and 1,450 µg/L of methyl tertiary butyl ether (MTBE) were detected in well MW-2. On January 8, 2007, TPH_G up to 86,700 µg/L (MW-2) and MTBE up to 44 µg/L (MW-9) were detected in the groundwater. Depth to the groundwater was measured at about 30 feet bgs, and the flow direction was toward the east.

In the Workplan, your consultant, Applied Environmental Technologies, Inc. (AET), proposed to implement a soil vapor extraction/air sparging (VES/AS) system (VT-1 through VT-4, and MW-1/SP-1, MW-7/SP-2 and MW-8/SP-3), and to inject Fenton's Reagent into the groundwater using new injection wells, after six months operation of the VES/AS to enhance the active groundwater remediation at the Site. On June 20, 2007, Regional Board staff approved the Workplan in a separate letter.

California Environmental Protection Agency



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Mr. Garabet Kurbessoian
SM Service Station

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June 20, 2007

Based on our review, 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 Sites" adopted by the Regional Board on March 1, 2007.

Enclosed are your Waste Discharge Requirements, consisting of Regional Board Order No. R4-2007-0019, Monitoring and Reporting Program No. CI-9264, and Standard Provisions.

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

The Monitoring and Reporting Program requires you to implement the monitoring program on the effective date of this enrollment 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 reference Compliance File No. CI-9264 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.

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/html/permits/gen_orders/R4-2007-0019/R4-2007-0019.pdf

If you have any questions on Order No. R4-2007-0019, please contact Mr. Rodney Nelson at (213) 620-6119. Questions regarding the underground storage tank issues should be forwarded to Mr. Magdy Baiady at (213) 576-6699.

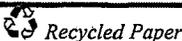
Sincerely,

fw David A. Bachorowski, AEO
Deborah J. Smith
Interim Executive Officer

Enclosures: 1. Board Order No. R4-2007-0019
2. Monitoring and Reporting Program No. CI-9264
3. Standard Provisions

cc: Yvonne Shanks, State Water Resources Control Board, Underground Storage Tank
Cleanup Fund
Captain Frank Comfort, Los Angeles City Fire Department
Scott Sankey, AET Inc.

California Environmental Protection Agency



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STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION
MONITORING AND REPORTING PROGRAM NO. CI-9264
FOR
SM SERVICE STATION
ENROLLMENT UNDER REGIONAL BOARD
ORDER NO. R4-2007-0019
SERIES NO. 019

I. REPORTING REQUIREMENTS

- A. SM Service Station (hereinafter Discharger) shall implement this monitoring program on the effective date of this enrollment under Regional Board Order No. R4-2007-0019.

Monitoring reports shall be received by the due dates in the following schedule:

<u>Reporting Period</u>	<u>Report Due</u>
January – March	April 15
April – June	July 15
July – September	October 15
October – December	January 15

The first monitoring report under this monitoring program is due by October 15, 2007.

- 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 January 30 of each year, beginning January 30, 2008, 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. 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 the WDR. This section shall be located at the front of the report and shall clearly list all non-compliance with discharge requirements, as well as all excursions of effluent limitations.

E. In addition to the aforementioned requirements, the Discharger shall comply with requirements contained in Section G of Order No. R4-2007-0019 "Monitoring and Reporting Requirements".

II. DISCHARGE MONITORING REQUIREMENTS

The quarterly reports shall contain the following information regarding the injection activities. If there is no injection during any reporting period, the report shall so state:

1. Location map showing injection points.
2. Written summary defining:
 - Depth of injection points;
 - Quantity of the Fenton's Reagent injected at each injection point; and
 - Total amount of the Fenton's Reagent injected at the site.
3. Monthly visual inspection at each injection well shall be conducted to evaluate the well casing integrity for a period of three months after each injection. The quarterly 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 Fenton's Reagent injection. Separate injection points/wells must be installed at the Site for the proposed Fenton's Reagent 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-3, MW-4 and MW-7 as background wells; MW-1, MW-2 and MW-8 as source wells; and MW-9 as downgradient well. 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) prior to their use. The Discharger shall conduct baseline sampling from the downgradient well (MW-9) one or two weeks prior to the proposed Fenton's Reagent 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 ⁴	PH units	Grab	Monthly ² /Quarterly ³
Temperature ⁴	°F	grab	Monthly ² /Quarterly ³
Oxidation-reduction potential ⁴	Milivolts	grab	Monthly ² /Quarterly ³
Specific conductivity ⁴	µmhos/cm	grab	Monthly ² /Quarterly ³

Ferrous iron	µg/L	grab	Monthly ² /Quarterly ³
Dissolved Oxygen ⁴	µg/L	grab	Monthly ² /Quarterly ³
MTBE	µg/L	grab	Monthly ² /Quarterly ³
Tert-Butyl Alcohol (TBA)	µg/L	grab	Monthly ² /Quarterly ³
Di-isopropyl Ether (DIPE)	µg/L	grab	Monthly ² /Quarterly ³
Ethyl-t-Butyl Ether (ETBE)	µg/L	grab	Monthly ² /Quarterly ³
Tert-Amyl-Methyl Ether (TAME)	µg/L	grab	Monthly ² /Quarterly ³
Acetone	µg/L	grab	Monthly ² /Quarterly ³
Formaldehyde	µg/L	grab	Monthly ² /Quarterly ³
Total Petroleum Hydrocarbons as gasoline (TPHg)	µg/L	grab	Monthly ² /Quarterly ³
Carbon tetrachloride	µg/L	grab	Monthly ² /Quarterly ³
Benzene	µg/L	grab	Monthly ² /Quarterly ³
Ethylbenzene	µg/L	grab	Monthly ² /Quarterly ³
Toluene	µg/L	grab	Monthly ² /Quarterly ³
Total xylenes	µg/L	grab	Monthly ² /Quarterly ³
Methane	µg/L	grab	Monthly ² /Quarterly ³
Total organic carbon	µg/L	grab	Monthly ² /Quarterly ³
Total dissolved solids	mg/L	grab	Quarterly ³
Sulfate	mg/l	grab	Quarterly ³
Chloride	mg/L	grab	Quarterly ³
Boron	mg/L	grab	Quarterly ³
Carbon dioxide	mg/L	grab	Quarterly ³
Manganese	µg/L	grab	Quarterly ³
Total iron	µg/L	grab	Quarterly ³
Alkalinity	µg/L	grab	Quarterly ³
Chromium (VI)	mg/L	grab	Quarterly ⁵
Total Chromium	mg/L	grab	Quarterly ⁵

¹ mg/L: milligrams per liter; µg/L: micrograms per liter; µmhos/cm: microohms per centimeter; °F: degree Fahrenheit.

² Monthly sampling events are required for the first month after the injection date

³ Quarterly sampling events are required after the first month.

⁴ Field instrument will be used to test for this constituent.

⁵ One time sampling event is required for this constituent. If detected, quarterly monitoring is required from the same monitoring wells.

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. Quarterly 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)"

SM Service Station
Monitoring and Reporting Program No. CI-9264

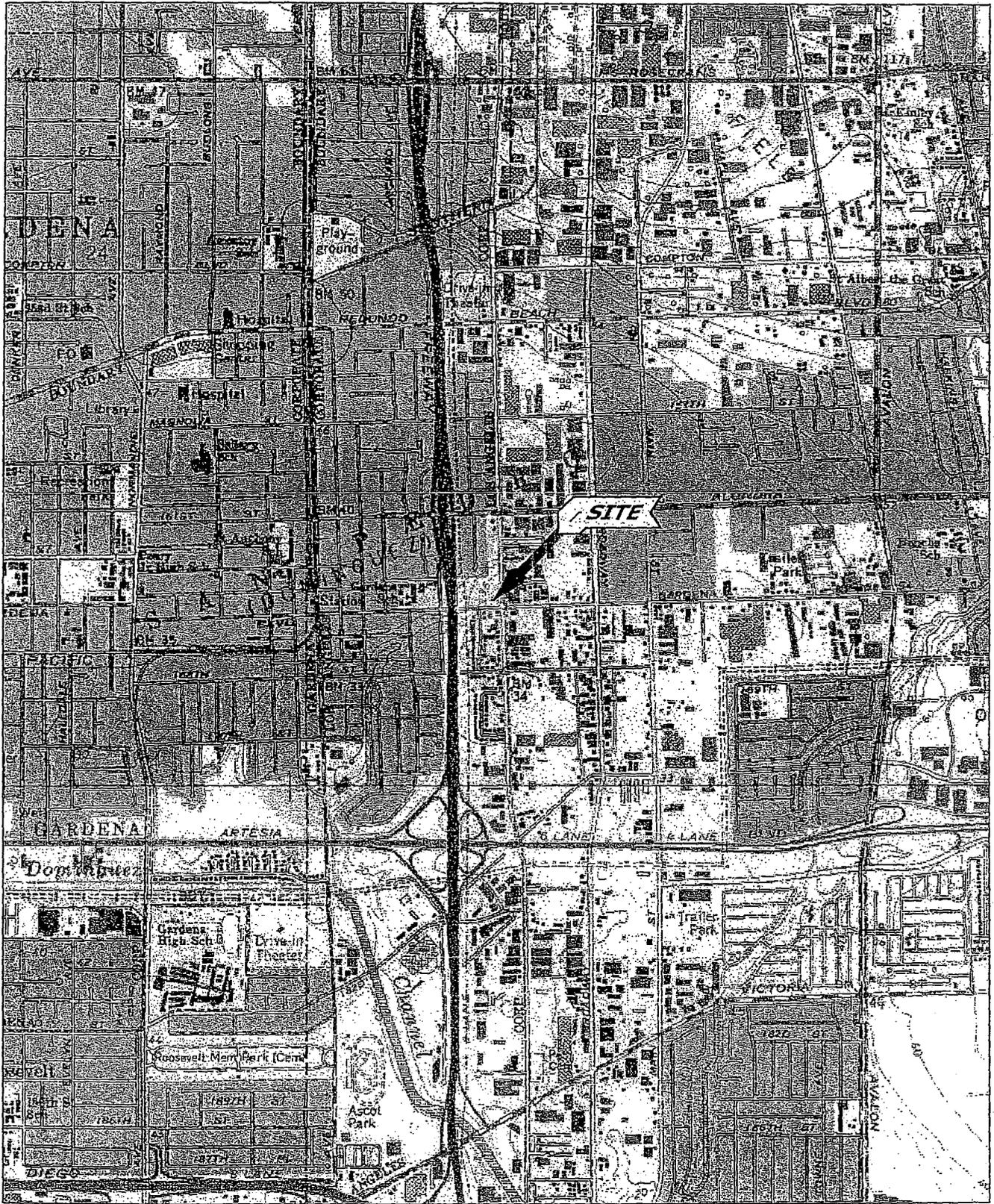
UST File No. 902480161
Order No. R4-2007-0019

All records and reports submitted in compliance with this Order are public documents and will 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. Only proprietary information, and only at the request of the Discharger, will be treated as confidential.

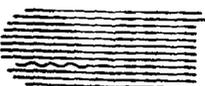
Ordered by

David A. Bachowski, AEO
fw
Deborah J. Smith
Interim Executive Officer

Date: June 20, 2007



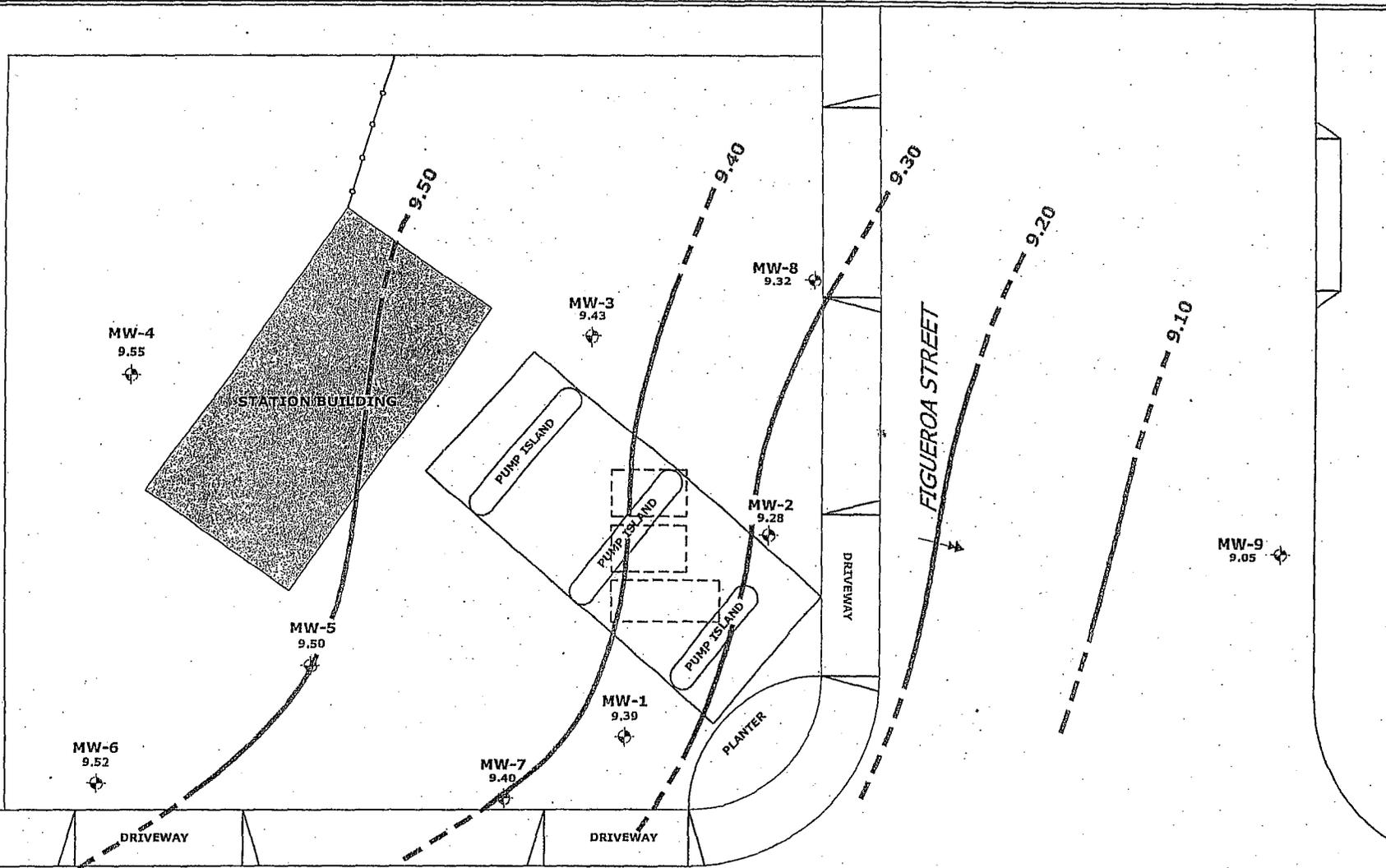
0' 2000' 1 MILE
 SCALE - 1" = 2000' AT 8.5" x 11"

 **Applied Environmental Technologies, Inc.**
 4561 Market Street, Suite B • Ventura, California 93003
 Phone (805)650-1400 Fax (805)650-1576

SITE LOCATION MAP
 16435 FIGUEROA STREET
 LOS ANGELES, CALIFORNIA

PLATE REFERENCE 075901Q2A PROJECT NUMBER 0759-01

fig
 1



MW-4
9.55

MW-3
9.43

MW-8
9.32

MW-9
9.05

STATION BUILDING

PUMP ISLAND

PUMP ISLAND

PUMP ISLAND

MW-2
9.28

MW-1
9.39

PLANTER

FIGUEROA STREET

DRIVEWAY

DRIVEWAY

DRIVEWAY

GARDENA BOULEVARD

LEGEND

⊕ GROUNDWATER MONITORING WELL

□ FORMER FUEL DISPENSER LOCATION

~ CONTOUR OF EQUAL GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL (FT/MSL)



SCALE - 1" = 30' AT 8.5" x 11"

Applied Environmental Technologies, Inc.

4561 Market Street, Suite B • Ventura, California 93003
Phone (805)650-1400 Fax (805)650-1576

**GROUNDWATER ELEVATION CONTOUR MAP
JANUARY, 2007**

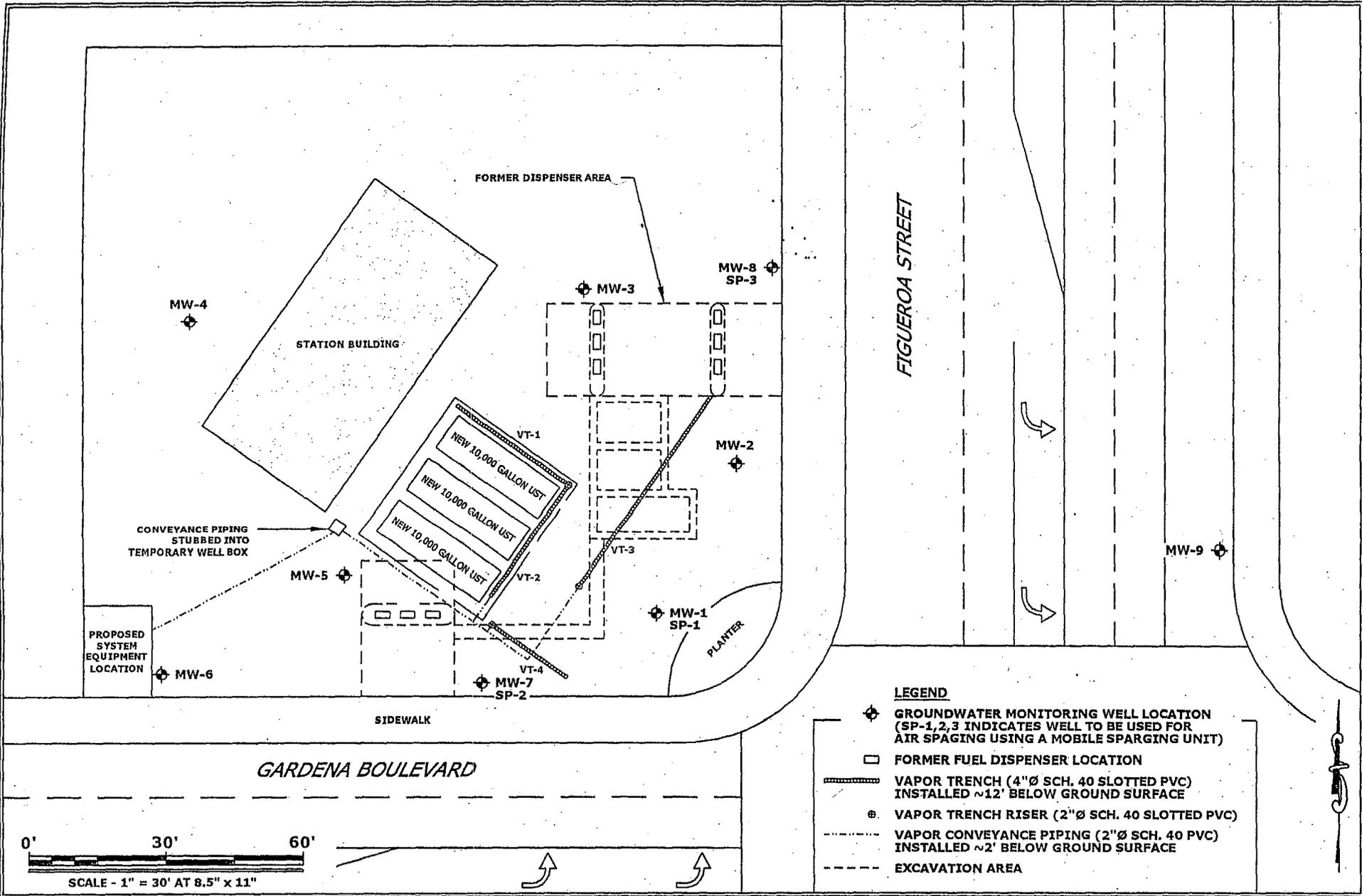
16435 FIGUEROA STREET
LOS ANGELES, CALIFORNIA

PLATE REFERENCE 075901Q4A

FEBRUARY 6, 2007

PROJECT NUMBER 0759-01

FIG. 2



SITE PLAN SHOWING THE PROPOSED SYSTEM EQUIPMENT LOCATION AND WELL DESIGNATIONS
 16435 FIGUEROA STREET
 LOS ANGELES, CALIFORNIA

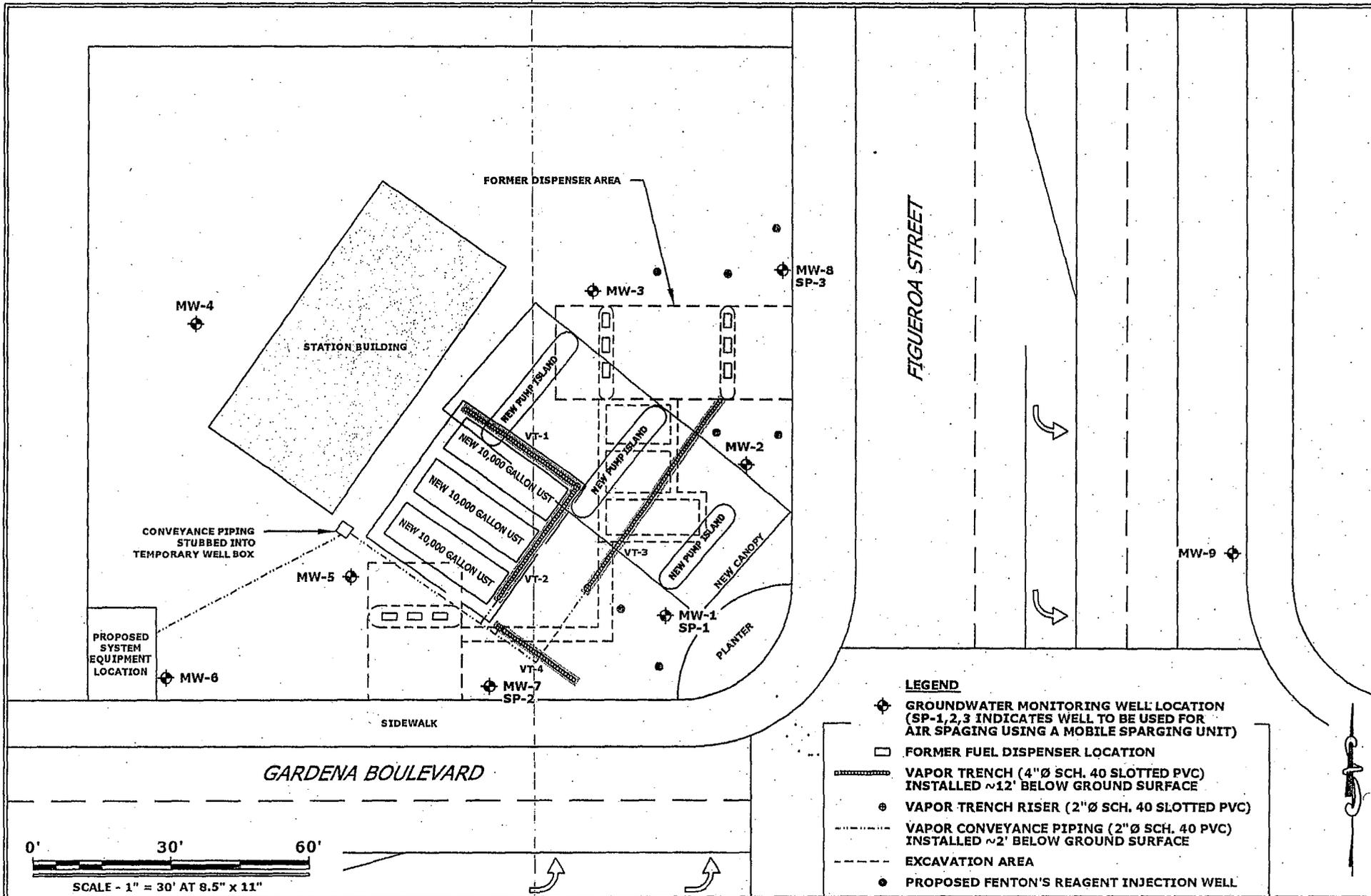
FIG. #3

Applied Environmental Technologies, Inc.
 4561 Market Street, Suite B •Ventura, California 93003
 Phone (805)650-1400 Fax (805)650-1576

PLATE REFERENCE 075901A2G

MARCH 6, 2007

PROJECT NUMBER 0759-01



SITE PLAN SHOWING PROPOSED FENTON'S REAGENT INJECTION WELLS
 16435 FIGUEROA STREET
 LOS ANGELES, CALIFORNIA

FIG. 4

Applied Environmental Technologies, Inc.
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 Phone (805) 650-1400 Fax (805) 650-1576

PLATE REFERENCE 075901A2I

MARCH 23, 2007

PROJECT NUMBER 0759-01