

Los Angeles Regional Water Quality Control Board

February 2, 2016

Certified with Return Receipt
7014 2870 0001 4613 5328

Mr. Jeff Appel
Rapid Gas, Incorporated
1418 Amherst Avenue, Suite #1
Los Angeles, CA 90025

**GENERAL WASTE DISCHARGE REQUIREMENTS FOR IN-SITU GROUNDWATER
REMEDICATION AND GROUNDWATER RE-INJECTION
FORMER RAPID GAS/UNITED OIL STATION #22 DBA JIFFY LUBE
7558 RESEDA BOULEVARD, RESEDA
(ORDER NO. R4-2014-0187, SERIES NO. 008; CI NO. 10103) (UST FILE NO. 913350743)**

Dear Mr. Appel:

We are in receipt of your application for coverage under the General Waste Discharge Requirements (WDRs) for in-situ chemical oxidation (ISCO™) using hydrogen peroxide and magnesium sulfate for groundwater remediation at the subject site.

The site is a former United Oil gasoline service station located at the corner of Reseda Boulevard and Saticoy Street in Reseda, California. In March 1999, three underground storage tanks (USTs), two dispenser islands, and a station building were removed from the site. The site was subsequently redeveloped into a Jiffy Lube service center.

Several site investigations conducted to date indicate that soil and groundwater beneath the site have been impacted by fuel constituents. The data from the recent groundwater sampling event (October 2015) reported maximum total petroleum hydrocarbons as gasoline (TPH_G) concentrations up to 24,500 micrograms per liter (µg/L), total petroleum hydrocarbons as diesel (TPH_D) up to 1,170 µg/L, benzene up to 11,000 µg/L, methyl tertiary butyl ether (MTBE) up to 2,980 µg/L, and tertiary butyl alcohol (TBA) up to 68,700 µg/L in the groundwater.

In a revised remedial action plan (Revised RAP) dated August 28, 2013, your consultant, Atlas Environmental Engineering, Inc. (Atlas) proposed to conduct ISCO™ injection and a pilot study using hydrogen peroxide to remediate the dissolved-phase petroleum hydrocarbons in the groundwater. The Revised RAP was conditionally approved by the Regional Board on March 17, 2014.

In February 2015, Atlas installed five application injection wells (TW-1 through TW-5) and converted existing monitoring wells MW-10 and MW-12 into injection wells for the proposed ISCO™. In a Revised Remedial Action Plan Addendum (Revised RAP Addendum) dated January 15, 2016, Atlas proposed to conduct ISCO™ injection using hydrogen peroxide in the newly installed injection wells TW-1 through TW-5 and application injection wells MW-10 and MW-12.

As a remedial alternative, Atlas proposed to use magnesium sulfate solution for enhanced treatment. A 10% concentration of hydrogen peroxide or magnesium sulfate solution will be applied into the formation using the application wells as batch events. The Revised RAP Addendum was approved by the Regional Board on January 20, 2016.

We have completed our review of your application and determined that the proposed discharge meets the conditions specified in Order No. R4-2014-0187, "*General Waste Discharge Requirements for In-Situ Groundwater Remediation and Groundwater Re-Injection (General WDRs)*" adopted by the Los Angeles Regional Water Quality Control Board on September 11, 2014.

Hydrogen peroxide is permitted as a chemical oxidant and magnesium sulfate is permitted as an anaerobic degradation enhancement compound in the General WDRs, Order No. R4-2014-0187. To avoid material surfacing, you can go to http://www.waterboards.ca.gov/losangeles/water_issues/programs/ust/guidelines/Subsurface_injection_of_ISR.pdf for guidance.

Enclosed are the WDRs, consisting of General WDRs Board Order No. R4-2014-0187, and Revised Monitoring and Reporting Program (MRP) No. CI-10103 and Standard Provisions. These allow the use of hydrogen peroxide and magnesium sulfate for in-situ groundwater remediation at the site. This MRP and the General WDRs constitute the WDRs for the proposed feasibility study and full-scale implementation.

The MRP requires you to implement the monitoring program on the effective date of this enrollment under Regional Board Order No. R4-2014-0187. All monitoring reports shall be sent to the Regional Board, ATTN: Information Technology Unit. Please include a reference to MRP No. CI-10103 when submitting technical monitoring reports to the Regional Board. This will ensure that the reports are directed to the appropriate file and staff. Do not combine other reports with your monitoring reports. Submit each type of report as a separate document.

In accordance with regulations adopted by the State Water Resources Control Board (State Board) regarding electronic submittal of information, Underground Storage Tank Program (UST) monitoring reports have been electronically submitted to the State Board GeoTracker system under the UST Global ID T0603702225. To comply with the MRP under this WDR, you shall upload the WDR monitoring reports to the State Database Geotracker under both Global IDs T0603702225 (continuing) and WDR 100019724 (new).

For all parties who upload electronic documents to the State GeoTracker Database, the Regional Board will no longer accept documents (submitted by either hard copy or email) that already have been uploaded to GeoTracker. Please see Electronic Submittal to the Regional Board for GeoTracker Users dated December 12, 2011 at: <http://www.waterboards.ca.gov/losangeles/resources/Paperless/Paperless%20Office%20for%20OGT%20Users.pdf>

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.

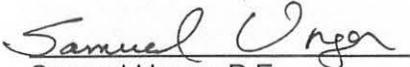
Mr. Jeff Appel
Rapid Gas, Incorporated

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February 2, 2016

If you have any questions, please contact Ms. Chandra Tyler at (213) 576-6782 or email Chandra.Tyler@waterboards.ca.gov for issues regarding the underground storage tank program. For regarding the WDR, please contact Dr. Eric Wu at (213) 576-6683 or at eric.wu@waterboards.ca.gov.

Sincerely,


Samuel Unger, P.E.
Executive Officer

Enclosures: 1. General WDR Order No. R4-2014-0187
2. Monitoring & Reporting Program No. CI-10103

cc: Micah Reich, State Water Resources Control Board, UST Cleanup Fund
Brian Partington, Water Replenishment District of Southern California
Eloy Luna, City of Los Angeles Fire Department, Underground Tanks
Hani Malki, City of Los Angeles Fire Department, Underground Tanks
Karl Kerner, Atlas Environmental Engineering, Inc.
Jasmine Senn, Atlas Environmental Engineering, Inc.

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

MONITORING AND REPORTING PROGRAM NO. CI – 10103

FOR

FORMER RAPID GAS/UNITED OIL STATION #22 DBA JIFFY LUBE
7558 RESEDA BOULEVARD, RESEDA

(HYDROGEN PEROXIDE/MAGNESIUM SULFATE INJECTION FOR
GROUNDWATER CLEANUP)
ORDER NO. R4-2014-0187, SERIES NO. 008

I. REPORTING REQUIREMENTS

- A. Rapid Gas, Incorporated (hereinafter Discharger) shall implement this monitoring program on the effective date of this Monitoring and Reporting Program (MRP). The first monitoring report under this MRP, for the period from January to June 2016, shall be received at the Regional Board by **July 15, 2016**. Subsequent monitoring reports shall be received at the Regional Board according to the following schedule:

<u>Monitoring Period</u>	<u>Report Due</u>
January – June	July 15
July – December	January 15

The Discharger shall comply with the Electronic Submittal of Information (ESI) requirements by submitting all reports required under the MRP to the State Water Resources Control Board (SWRCB) GeoTracker database, Attention: Information Technology Unit.

If there is no discharge or injection during any reporting period, the report shall so state.

- B. Laboratory analyses – all chemical, bacteriological, and toxicity analyses shall be conducted at a laboratory certified for such analyses by the State Board Division of Drinking Water - 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.
- C. 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.

- D. 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.
- E. Each monitoring report must affirm in writing "All analyses were conducted at a laboratory certified for such analyses by the State Board ELAP 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.
- F. 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.
- G. 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.
- H. If the Discharger performs analyses on any groundwater samples more frequently than required by this MRP using approved analytical methods, the results of those analyses shall be included in the report.
- I. 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.
- J. The Discharger should not implement any changes to the MRP prior to receiving the Executive Officer's written approval.
- K. In accordance with regulations adopted by the State Water Resource Control Board (State Board) regarding electronic submittal of information, Underground Storage Tank Program (UST) monitoring reports have been electronically submitted to the State Board GeoTracker system under the UST Global ID T0603702225. To comply with the MRP under this WDR, the Discharger shall upload the WDRs monitoring reports to the Geotracker system under both Global IDs T0603702225 (continuing) and WDR 100019724 (new).

II. HYDROGEN PEROXIDE AND MAGNESIUM SULFATE INJECTION MONITORING REQUIREMENTS

The reports shall contain the following information regarding injection activities:

1. A location map showing injection points.
2. Written and tabular summary defining the quantity of hydrogen peroxide and magnesium sulfate solution injected on each injection date, the cumulative quantity injected at each location, and the total cumulative amount injected at the site.

Groundwater monitoring wells shall not be used as injection points to avoid reduction of groundwater monitoring network, data bias, well screen clogging and alteration. Seven injection wells will be used for the injection (Figure 1). Additional injection points for full scale application must be reviewed and approved by the Regional Board prior to full-scale implementation.

III. GROUNDWATER MONITORING PROGRAM

The Discharger shall conduct groundwater monitoring at the site to monitor the effectiveness and ensure no adverse impacts from the injections. Groundwater samples shall be collected from upgradient groundwater monitoring wells MW-1A, MW-2A and MW-13; source area groundwater monitoring wells MW-11, MW-14, MW-15, and MW-16, and downgradient area groundwater monitoring wells MW-6, MW-7, and MW-17 (Figure 2). Additional monitoring wells for full-scale implementation may be required by the Regional Board. During the feasibility study, groundwater samples shall be collected approximately forty-five and ninety days after the initial injection; constituents analyzed shall be the same as in the table below. Groundwater shall be monitored for the duration of the full-scale remediation in accordance with the following monitoring program:

CONSTITUENT	UNITS	TYPE OF SAMPLE	MINIMUM FREQUENCY OF ANALYSIS ¹
Total petroleum hydrocarbons as gasoline (TPH _G) and as diesel (TPH _D)	µg/L ³	Grab	Semi-Annually
Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)	µg/L	Grab	Semi-Annually
Methyl tertiary butyl ether (MTBE), Tertiary butyl alcohol (TBA), Tertiary amyl methyl ether (TAME), Di-isopropyl ether (DIPE), ethyl tertiary butyl ether (ETBE)	µg/L	Grab	Semi-Annually

Naphthalene	µg/L	Grab	Semi-Annually
Ethanol, Formaldehyde Acetone	µg/L	Grab	Semi-Annually
Total dissolved solids, Arsenic, Boron, Chloride, Bromide, Sulfate, Lead, Nickel, Cadmium, Manganese	mg/L ⁴	Grab	Semi-Annually
Oxidation-reduction potential (ORP)	Millivolts	Grab	Semi-Annually
Dissolved Oxygen	µg/L	Grab	Semi-Annually
Dissolved Ferrous Iron	µg/L	Grab	Semi-Annually
Total Chromium and Hexavalent Chromium ²	µg/L	Grab	Semi-Annually
pH	pH units	Grab	Semi-Annually
Temperature	°F/°C	Grab	Semi-Annually
Groundwater Elevation	Feet, mean sea level and below ground surface	In situ	Semi-Annually

- ¹ One week before injection and semi-annually thereafter.
- ² The Discharger is required to monitor for total chromium and hexavalent chromium 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.
- ³ µg/L = microgram per liter.
- ⁴ mg/L = milligram per liter.

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 calculated groundwater flow direction.

IV. MONITORING FREQUENCIES

Specifications in the MRP are subject to periodic revisions. Monitoring frequencies may be adjusted to a less frequent basis or parameters dropped by the Executive Officer if the Discharger makes a request and the Executive Officer determines that the request is adequately supported 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)

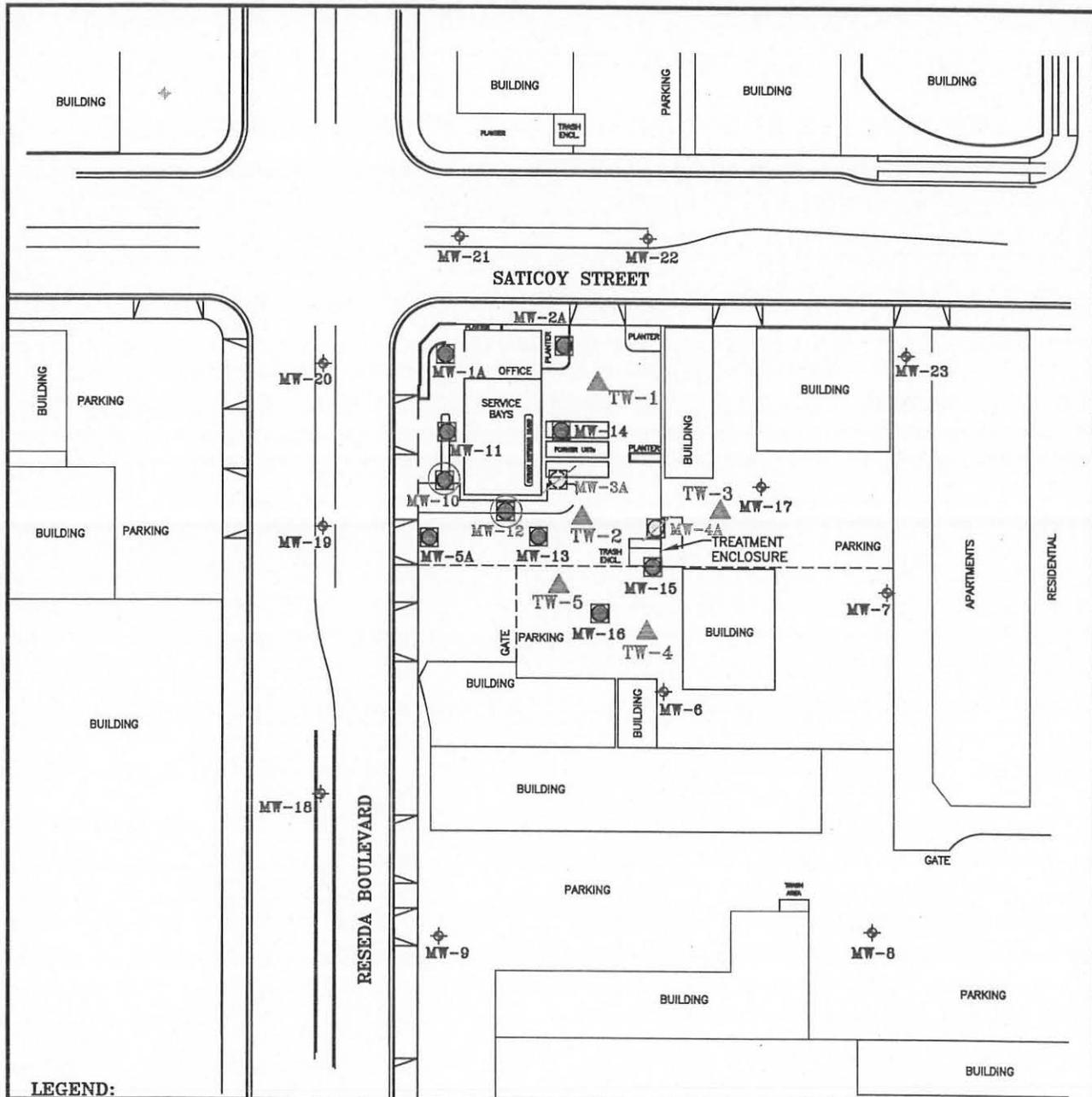
_____(Title)"

VI. PUBLIC DOCUMENTS

These records and reports are public documents and shall be made available for inspection during normal business hours at the office of the Regional Board, upon request by interested parties.

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

Date: February 2, 2016



LEGEND:

- | | |
|--|---|
| <ul style="list-style-type: none"> ⊕ MW-9 2" DIA. MONITORING WELL ⊕ MW-23 4" DIA. MONITORING WELL □ TRAFFIC BOX 18" ROUND OR 2'X2' SQ. ⊕ NON-SITE RELATED WELL | <ul style="list-style-type: none"> ▲ TW-5 APPLICATION WELL ⊗ MW-3A ABANDONED WELL ⊕ MW-12 CONVERTED INJECTION WELL |
|--|---|



Design By: S.P.

Drawn By: S.P.



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

3185 AIRWAY AVENUE, SUITE D-1
COSTA MESA, CA 92626
PHONE: (714) 890-7129

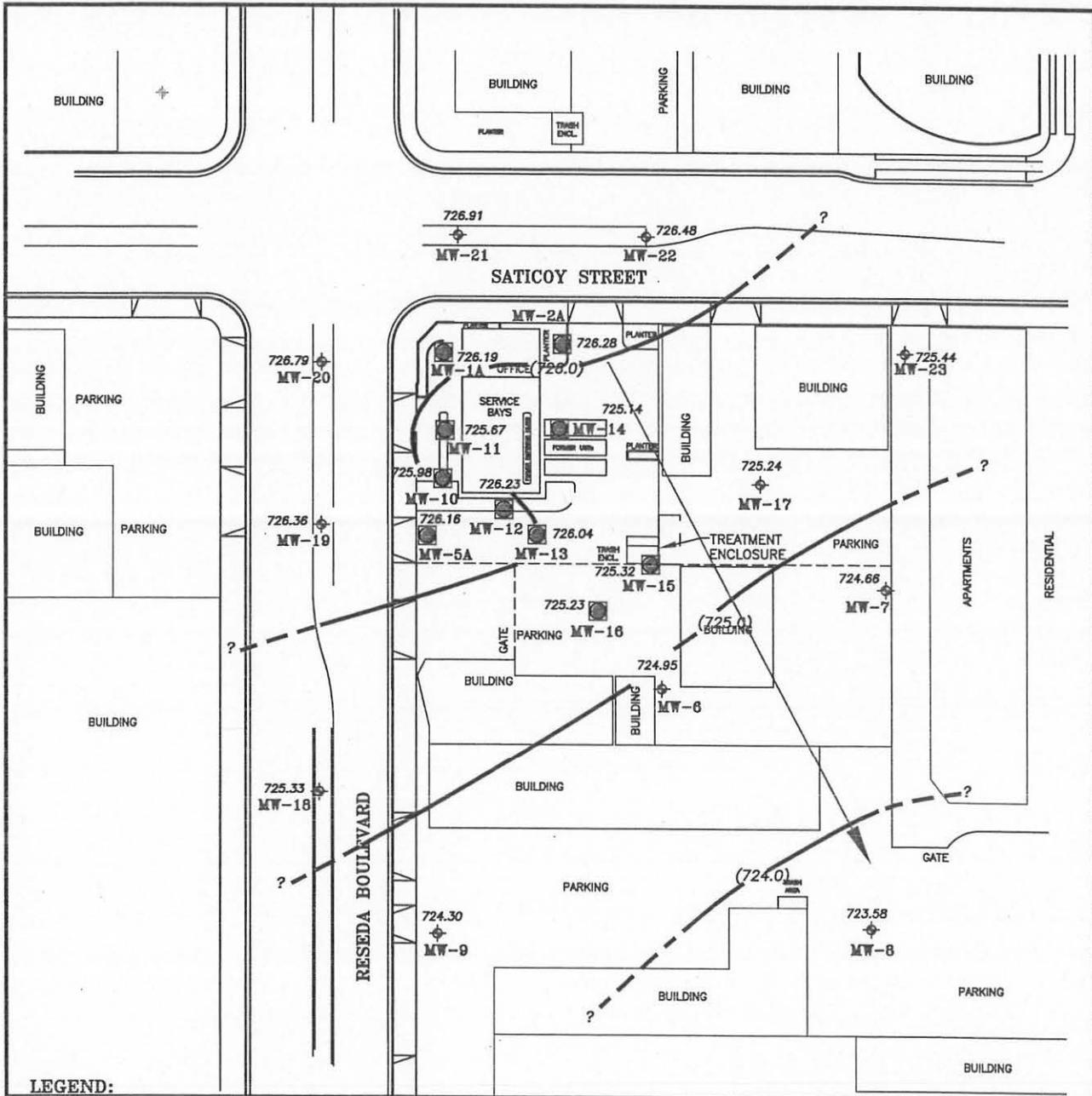
**FORMER RAPID GAS, INC.
STATION #22**

**7558 RESEDA BOULEVARD
RESEDA, CALIFORNIA**

**WELL
LOCATIONS**

DRAWING NUMBER:
R22-21528

FIGURE 1



LEGEND:

- MW-9** 2" DIA. MONITORING WELL
- MW-23** 4" DIA. MONITORING WELL
- TRAFFIC BOX 18" ROUND OR 2'X2' SQ.
- NON-SITE RELATED WELL

726.91 GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL (MSL) MEASURED ON 10/29/2015

726.5 GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MSL (DASHED WHERE INFERRED)

RED ARROW DENOTES ESTIMATED GROUNDWATER FLOW DIRECTION



Design By: S.P.

Drawn By: S.P.



**FORMER RAPID GAS, INC.
STATION #22**

**GROUNDWATER
ELEVATION
CONTOUR MAP**



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

3185 AIRWAY AVENUE, SUITE D-1
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PHONE: (714) 890-7129

**7558 RESEDA BOULEVARD
RESEDA, CALIFORNIA**

DRAWING NUMBER:
R22-21528

FIGURE 2