ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

April 3, 2012

Thomas L. Robinson
Robinson Oil Corporation
955 Martin Avenue
Santa Clara, CA 95050-2608

Edwin Coats
East Avenue Services
1727 Dolphin Place
Discovery Bay, CA 94514
(*Sent via E-mail to: edcoatsjr@inreach.com*)

Subject: Case Closure for Fuel Leak Case No. RO0002881 and GeoTracker Global ID No. T0600152516, East Avenue Services, 4186 East Avenue, Livermore, CA 94550

Dear Mr. Robinson and Mr. Coats:

This letter transmits the enclosed underground storage tank (UST) case closure letter in accordance with Chapter 6.75 (Article 4, Section 25299.37[h]). The State Water Resources Control Board adopted this letter on February 20, 1997. As of March 1, 1997, the Alameda County Environmental Health (ACEH) is required to use this case closure letter for all UST leak sites. We are also transmitting to you the enclosed case closure summary. These documents confirm the completion of the investigation and cleanup of the reported release at the subject site. The subject fuel leak case is closed. This case closure letter and the case closure summary can also be viewed on the State Water Resources Control Board's Geotracker website (http://geotracker.swrcb.ca.gov) and the Alameda County Environmental Health website (http://www.acgov.org/aceh/index.htm).

SITE INVESTIGATION AND CLEANUP SUMMARY

Please be advised that the following conditions exist at the site:

- Total Petroleum hydrocarbons as gasoline remains in groundwater at concentrations up to 4,810 ppb and in soil at concentrations up to 46 ppm approximately 20 feet west of the former UST area.
- Methyl tert-butyl ether remains in groundwater at concentrations up to 455 ppb.
- As described in section IV of the attached Case Closure Summary, the case was closed with Site Management Requirements that limit future land use to the current commercial land use only.

If you have any questions, please call Jerry Wickham at (510) 567-6791. Thank you.

Sincerely,

Donna L. Drogos, P.E.
Division Chief

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Director

DEPARTMENT OF ENVIRONMENTAL HEALTH
OFFICE OF THE DIRECTOR
1131 HARBOR BAY PARKWAY
ALAMEDA, CA 94502
(510) 567-6777
FAX (510) 337-9135

REMEDIAL ACTION COMPLETION CERTIFICATION

April 3, 2012

Thomas L. Robinson
Robinson Oil Corporation
955 Martin Avenue
Santa Clara, CA 95050-2608

Edwin Coats
East Avenue Services
1727 Dolphin Place
Discovery Bay, CA 94514
(*Sent via E-mail to: edcoatsjr@inreach.com*)

Subject: Case Closure for Fuel Leak Case No. RO0002881 and GeoTracker Global ID T0600152516, East Avenue Service Gas Station, 4186 East Avenue, Livermore, CA 94550

Dear Mr. Robinson and Mr. Coats:

This letter confirms the completion of a site investigation and remedial action for the underground storage tanks formerly located at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tank(s) are greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, this agency finds that the site investigation and corrective action carried out at your underground storage tank(s) site is in compliance with the requirements of subdivisions (a) and (b) of Section 25299.37 of the Health and Safety Code and with corrective action regulations adopted pursuant to Section 25299.77 of the Health and Safety Code and that no further action related to the petroleum release(s) at the site is required.

Claims for reimbursement of corrective action costs submitted to the Underground Storage Tank Cleanup Fund more than 365 days after the date of this letter or issuance or activation of the Fund's Letter of Commitment, whichever occurs later, will not be reimbursed unless one of the following exceptions applies:

- Claims are submitted pursuant to Section 25299.57, subdivision (k) (reopened UST case); or
- Submission within the timeframe was beyond the claimant's reasonable control, ongoing work is required for closure that will result in the submission of claims beyond that time period, or that under the circumstances of the case, it would be unreasonable or inequitable to impose the 365-day time period.

This notice is issued pursuant to subdivision (h) of Section 25299.37 of the Health and Safety Code. Please contact our office if you have any questions regarding this matter.

Sincerely,

Arta Levi
Director

Enclosures:
1. Remedial Action Completion Certification
2. Case Closure Summary

cc:

Colleen Winey (QIC 8021) w/enc
Zone 7 Water Agency
100 North Canyons Pkwy
Livermore, CA 94551
(Sent via E-mail to: cwiney@zone7water.com))

Closure Unit
State Water Resources Control Board
UST Cleanup Fund
P.O. Box 944212
Sacramento, CA 94244-2120
(uploaded to GeoTracker)

Danielle Stefani (w/enc)
Livermore-Pleasanton Fire Department
3560 Nevada Street,
Pleasanton, CA 94566
(*Sent via E-mail to: dstefani@lpfire.org*)

City of Livermore Planning Department (w/enc),
1052 South Livermore Avenue,
Livermore, CA 94550

Ronald Michelson
RM Associates
619 S. Knik-Goose Bay Road, Suite H, #253,
Wasilla, AK 99654
(*Sent via E-mail to: RMichelson@volcano.net*)

Donna Drogos, ACEH (*Sent via E-mail to: donna.drogos@acgov.org*)
Jerry Wickham, ACEH (*Sent via E-mail to: jerry.wickham@acgov.org*)

GeoTracker (w/enc)
eFile (w/orig enc)

CASE CLOSURE SUMMARY
LEAKING UNDERGROUND FUEL STORAGE TANK - LOCAL OVERSIGHT PROGRAM

I. AGENCY INFORMATION

Date: July 5, 2011

Agency Name: Alameda County Environmental Health	Address: 1131 Harbor Bay Parkway
City/State/Zip: Alameda, CA 94502-6577	Phone: (510) 567-6791
Responsible Staff Person: Jerry Wickham	Title: Senior Hazardous Materials Specialist

II. CASE INFORMATION

Site Facility Name: East Avenue Services Gas Station		
Site Facility Address: 4186 East Avenue, Livermore, CA 94550		
RB Case No.: ---	STID No.: ---	LOP Case No.: RO0002881
URF Filing Dates: 05/31/2005	Geotracker ID: T0600152516	APN: 99-1082-35-32 (formerly 99-1082-31-1)

Responsible Parties	Addresses	Phone Numbers
Edwin and Suzanne Coats, East Avenue Services	1727 Dolphin Place, Discovery Bay, CA 94514	No phone number
Thomas Robinson, Robinson Oil Company	955 Martin Avenue, Santa Clara, CA 95050-2608	408-327-4300
---	---	---
---	---	---

Tank I.D. No	Size in Gallons	Contents	Closed In Place/Removed?	Date
1 through 4	4,000	Gasoline	Removed	04/03/2007
5	6,000	Gasoline	Removed	04/03/2007
---	---	---	---	---
---	---	---	---	---
Piping			Removed	04/03/2007

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and Type of Release: Unknown. During removal, no evidence of holes, cracks, or other signs of leakage were observed.		
Site characterization complete? Yes	Date Approved By Oversight Agency? ---	
Monitoring wells installed? Yes	Number: 3	Proper screened interval? ---
Highest GW Depth Below Ground Surface: 18.4 feet bgs	Lowest Depth: 29.0 feet bgs	Flow Direction: Based on the three wells on site, flow direction is to the southwest; regional gradient is to west northwest.
Most Sensitive Current Use: Drinking water source.		

Summary of Production Wells in Vicinity: The nearest water supply well (3S/2E 15C1) is located approximately 1,250 feet east southeast of the site. Based on the distance from the site, cross gradient location, and limited size of the plume, well 3S/2E 15C1 is not expected to be a receptor for the site. Well (3S/2E 15B4) is located approximately 1,950 feet east southeast of the site. Based on the distance from the site, cross gradient location, and limited size of the plume, well 3S/2E 15B4 is not expected to be a receptor for the site. The nearest downgradient well (3S/2E 16A5) is located approximately 1,950 feet southwest of the site. Based on the distance from the site and limited size of the plume, well 3S/2E 15B4 is not expected to be a receptor for the site. No other water supply wells are located within 2,000 feet of the site.	
Are drinking water wells affected? No	Aquifer Name: Mocho II Subbasin of Livermore-Amador Basin
Is surface water affected? No	Nearest SW Name: Arroyo Mocho is approximately 4,300 feet south of site.
Off-Site Beneficial Use Impacts (Addresses/Locations): None	
Reports on file? Yes	Where are reports filed? Alameda County Environmental Health and Livermore-Pleasanton Fire Department.

TREATMENT AND DISPOSAL OF AFFECTED MATERIAL

Material	Amount (Include Units)	Action (Treatment or Disposal w/Destination)	Date
Tank	4 – 1,000 gallon tanks 1 -6,000 gallon tank	Five gasoline USTs were removed from the site and disposed at Ecology Control Industries in Richmond, CA.	04/03/2007
Piping	Not reported	The piping and hydraulic lifts were removed from the site and disposed at Ecology Control Industries in Richmond, CA..	04/06/2007
Free Product	----	----	----
Soil	---	---	---
Groundwater	---	---	---

MAXIMUM DOCUMENTED CONTAMINANT CONCENTRATIONS BEFORE AND AFTER CLEANUP
(Please see Attachments 1-6 for additional information on contaminant locations and concentrations)

Contaminant	Soil (ppm)		Water (ppb)	
	Before	After	Before	After
TPH (Gas)	46	46	19,000(1)	4,810(1)
TPH (Diesel)	290	290	850(2)	<47(2)
Oil and Grease	Not analyzed	Not analyzed	Not analyzed	Not analyzed
Benzene	<0.025	<0.025	1,200(3)	92(3)
Toluene	0.12	0.12	53(4)	<0.5(4)
Ethylbenzene	0.44	0.44	4,100(5)	1,100(5)
Xylenes	0.74	0.74	740(6)	40(6)
Heavy Metals (Cd, Cr, Pb, Ni, Zn)	12(7)	12(7)	Not analyzed	Not analyzed
MTBE	0.33(8)	0.33(8)	1,900(9)	455(10)
Other (8240/8270)	Not analyzed	Not analyzed	Not analyzed	Not analyzed

Footnotes:

(1) The maximum concentration of TPHg before cleanup was 19,000 ppb in grab groundwater sample W-1 collected on 04/29/2005; the maximum concentration of TPHg after cleanup was 4,810 ppb in a groundwater sample collected from well MW-1 during the last monitoring well sampling event on 04/08/2010.
(2) The maximum concentration of TPHd before cleanup was 850 ppb in a groundwater sample from well MW-1 collected on 02/29/2008; TPHd was not detected above the reporting limit of 47 during the most recent monitoring well sampling event on 04/08/2010.
(3) The maximum concentration of benzene before cleanup was 1,200 ppb in grab groundwater sample W-1 collected on 04/29/2005; the maximum concentration of benzene after cleanup was 92 ppb in a groundwater sample collected from well MW-1 during the last monitoring well sampling event on 04/08/2010.
(4) The maximum concentration of toluene before cleanup was 53 ppb in grab groundwater sample W-1 collected on 04/29/2005; toluene was not detected during the last monitoring well sampling event on 04/08/2010.
(5) The maximum concentration of ethylbenzene before cleanup was 4,100 ppb in grab groundwater sample W-1 collected on 04/29/2005; the maximum concentration of ethylbenzene after cleanup was 1,100 ppb in a groundwater sample collected from well MW-1 during the last monitoring well sampling event on 04/08/2010.
(6) The maximum concentration of xylenes before cleanup was 740 ppb in grab groundwater sample W-1 collected on 04/29/2005; the maximum concentration of xylenes after cleanup was 40 ppb in a groundwater sample collected from well MW-1 during the last monitoring well sampling event on 04/08/2010.
(7) Lead = 12 ppm; no other metals analyzed.
(8) MTBE = 0.33 ppm; no other fuel oxygenates analyzed in soil.
(9) MTBE = 1,900 ppb; TBA, DIPE, ETBE, TAME, 1,2-DCA, and EDC not detected at various reporting limits in grab groundwater sample W-1 collected on 04/29/2005.
(10) MTBE = 455 ppb; TBA, DIPE, ETBE, TAME, 1,2-DCA, and EDC not detected at various reporting limits during the. last groundwater monitoring event on 04/08/2010.

Site History and Description of Corrective Actions:

The site is currently a retail service station and convenience store. Surrounding land use is mixed commercial and residential.

In April 2005, seven shallow soil borings were advanced as part of a Phase II Environmental Assessment, which was conducted in association with a property transaction. Eleven soil samples and five grab groundwater samples were collected from the seven shallow soil borings. Total petroleum hydrocarbons as gasoline (TPHg) and diesel (TPHd) were detected in one of the 11 soil samples at concentrations of 46 and 290 ppm, respectively. The TPHd result was suspected to be weathered gasoline rather than diesel since no diesel fuel was known to have been stored or used at the site. MTBE was detected in one of the 11 soil samples at a concentration of 0.33 ppm. Petroleum hydrocarbons and fuel oxygenates were not detected in four of the five grab groundwater samples. However, TPHg, benzene, and MTBE were detected in one of the five grab groundwater samples (W-1) at concentrations of 19,000, 1,200, and 1,900 ppb respectively.

In March 2007, the former service station building was demolished. On April 3, 2007, the five USTs, product line, and dispensers were also removed from the site. During the removal activities, 10 soil samples were collected from soil beneath the USTs and five soil samples were collected beneath the product lines. Petroleum hydrocarbons and fuel oxygenates were not detected above laboratory reporting limits in any of the 15 soil samples. Petroleum hydrocarbons and fuel oxygenates were also not detected in five composite soil samples collected from the stockpiled soil excavated during the removals. The five former USTs were replaced by one 20,000-gallon UST, which was relocated to the northwest corner of the property. A new building was constructed in the northeast corner of the property.

In May 2007, three monitoring wells (MW-1 through MW-3) were installed on site. Three soil samples from each well boring were submitted for laboratory analysis. MTBE was detected in one of the nine soil samples at a concentration of 0.23 ppm. Petroleum hydrocarbons and fuel oxygenates were not detected in the remaining soil samples.

Groundwater monitoring was conducted at the site from May 2007 through April 2010. TPHg has been detected in groundwater samples from well MW-1 at concentrations ranging from 600 to 4,810 ppb. MTBE has been detected in groundwater samples from well MW-1 at concentrations ranging from 85 to 455 ppb. The higher concentrations of dissolved petroleum hydrocarbons and fuel oxygenates detected in groundwater from well MW-1 appear to correlate with periods of higher seasonal water levels.

The hydrocarbon plume appears to be generally limited in extent to the area between the former dispensers and former USTs. Based on the limited detections of petroleum hydrocarbons and fuel oxygenates in soil samples collected in the suspected source area and limited extent of groundwater contamination, the plume is not expected to migrate and is expected to attenuate over time.

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? Yes		
Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? Yes		
Does corrective action protect public health for current land use? Alameda County Environmental Health staff does not make specific determinations concerning public health risk. However, based upon the information available in our files to date, it does not appear that the release would present a risk to human health based upon current land use and conditions.		
Site Management Requirements: Case closure for this fuel leak site is granted for the current commercial land use only. If a change in land use to any residential or other conservative land use scenario occurs at this site, Alameda County Environmental Health (ACEH) must be notified as required by Government Code Section 65850.2.2. ACEH will re-evaluate the case upon receipt of approved development/construction plans. Excavation or construction activities in areas of residual contamination require planning and implementation of appropriate health and safety procedures by the responsible party prior to and during excavation and construction activities.		
Should corrective action be reviewed if land use changes? Yes		
Was a deed restriction or deed notification filed? No		Date Recorded: --
Monitoring Wells Decommissioned: No	Number Decommissioned: 0	Number Retained: 3
List Enforcement Actions Taken: None		
List Enforcement Actions Rescinded: --		

V. ADDITIONAL COMMENTS, DATA, ETC.

Considerations and/or Variances:

No soil vapor sampling has been conducted at the site to evaluate the potential for vapor intrusion to indoor air. However, benzene has not been detected at concentrations above laboratory reporting limits in soil samples at the site and TPHg has been detected in only one of 40 soil samples at a concentration of 290 ppm. Therefore, there does not appear to be significant shallow soil contamination that would act as a source for vapor migration. The depth to groundwater is greater than 18 feet, which also limits the potential for shallow vapor migration from the groundwater surface or capillary fringe. Based on these limiting site conditions, soil vapor sampling does not appear to be necessary.

Conclusion:

Alameda County Environmental Health staff believe that the levels of residual contamination do not pose a significant threat to water resources, public health and safety, and the environment under the current commercial land use based upon the information available in our files to date. No further investigation or cleanup for the fuel leak case is necessary unless a change in land use to any residential or other conservative land use scenario occurs at the site. ACEH staff recommend closure for this site.

VI. LOCAL AGENCY REPRESENTATIVE DATA

Prepared by: Jerry Wickham	Title: Senior Hazardous Materials Specialist
Signature: Jerry Wickham	Date: 06/29/11
Approved by: Donna L. Drogos, P.E.	Title: Chief
Signature: Donna L. Drogos	Date: 06/29/11

This closure approval is based upon the available information and with the provision that the information provided to this agency was accurate and representative of site conditions.

VII. REGIONAL BOARD NOTIFICATION

Regional Board Staff Name: Cherie McCaulou	Title: Engineering Geologist
Notification Date: 07/06/11	

VIII. MONITORING WELL DECOMMISSIONING

Date Requested by ACEH: 10/26/11	Date of Well Decommissioning Report: 03/23/12	
All Monitoring Wells Decommissioned: Yes	Number Decommissioned: 3	Number Retained: Ø
Reason Wells Retained: NA		
Additional requirements for submittal of groundwater data from retained wells: None		
ACEH Concurrence - Signature: Jerry Wickham		Date: 04/03/12

Attachments:
1. Site Vicinity Map (1 pp)
2. Site Plan and Soil Sample Locations (2 pp)
3. Groundwater Elevation Contours, Analytical Results, and Contour Maps (5 pp)
4. Soil Analytical Data (4 pp)
5. Groundwater Analytical Data (1 pp)
6. Boring Logs (10 pp)

This document and the related CASE CLOSURE LETTER & REMEDIAL ACTION COMPLETION CERTIFICATE shall be retained by the lead agency as part of the official site file.

Wickham, Jerry, Env. Health

From: Cherie MCcaulou [CMccaulou@waterboards.ca.gov]
Sent: Wednesday, July 06, 2011 1:20 PM
To: Wickham, Jerry, Env. Health
Subject: Re: Pending closure for 4186 East Avenue, Livermore

Jerry - Thank you for the courtesy notice for ACEH's recommendation for case closure of the fuel leak release site at 4186 East Avenue in Livermore. The Regional Water Board staff has no objection to ACEH closing this case. It has been a pleasure working with you.

Sincerely,

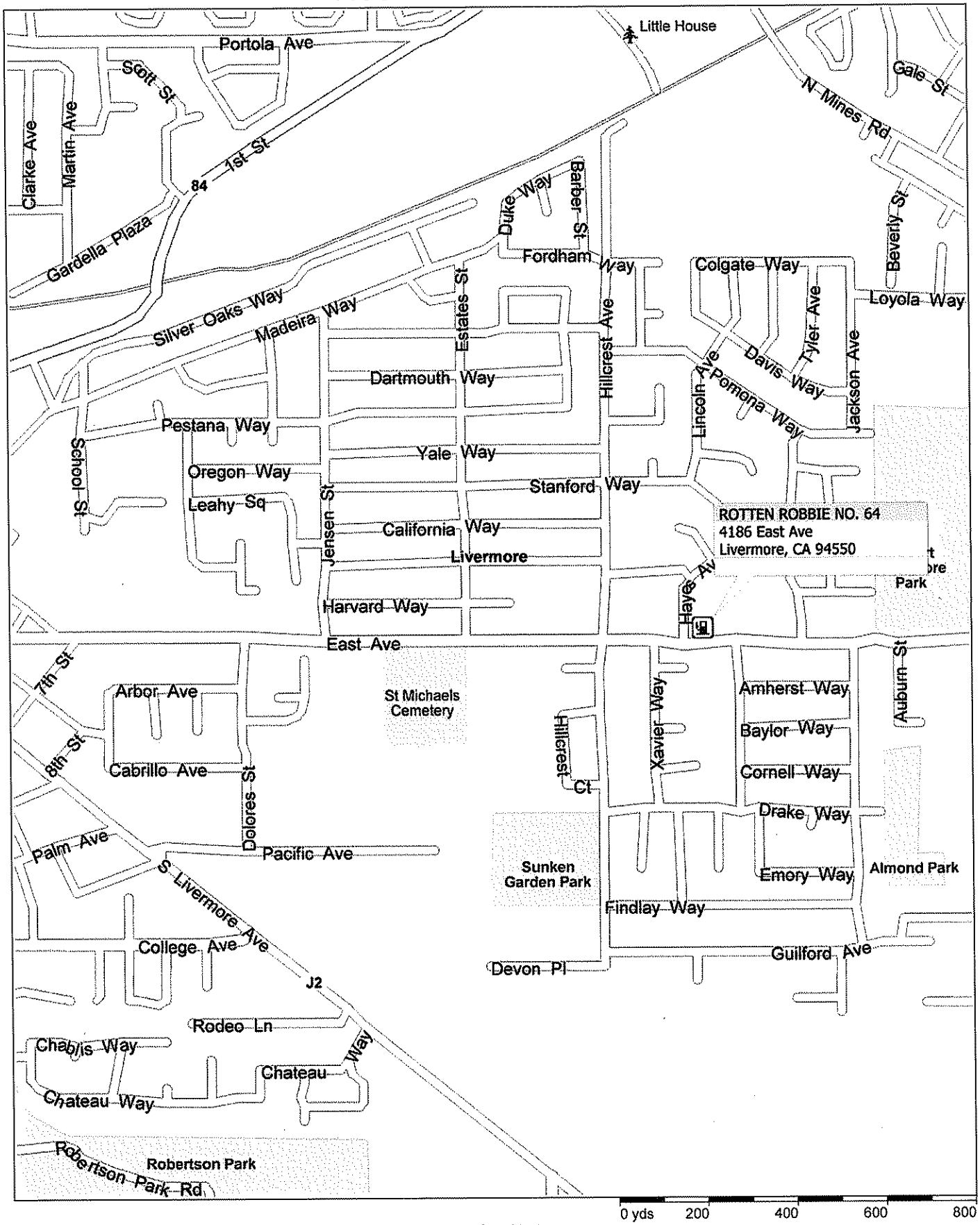
Cherie McCaulou
Engineering Geologist
San Francisco Bay Regional Water Quality Control Board
cmccaulou@waterboards.ca.gov
510-622-2342

>>> "Wickham, Jerry, Env. Health" <jerry.wickham@acgov.org> 7/5/2011 6:18 PM >>>
Hi Cherie,

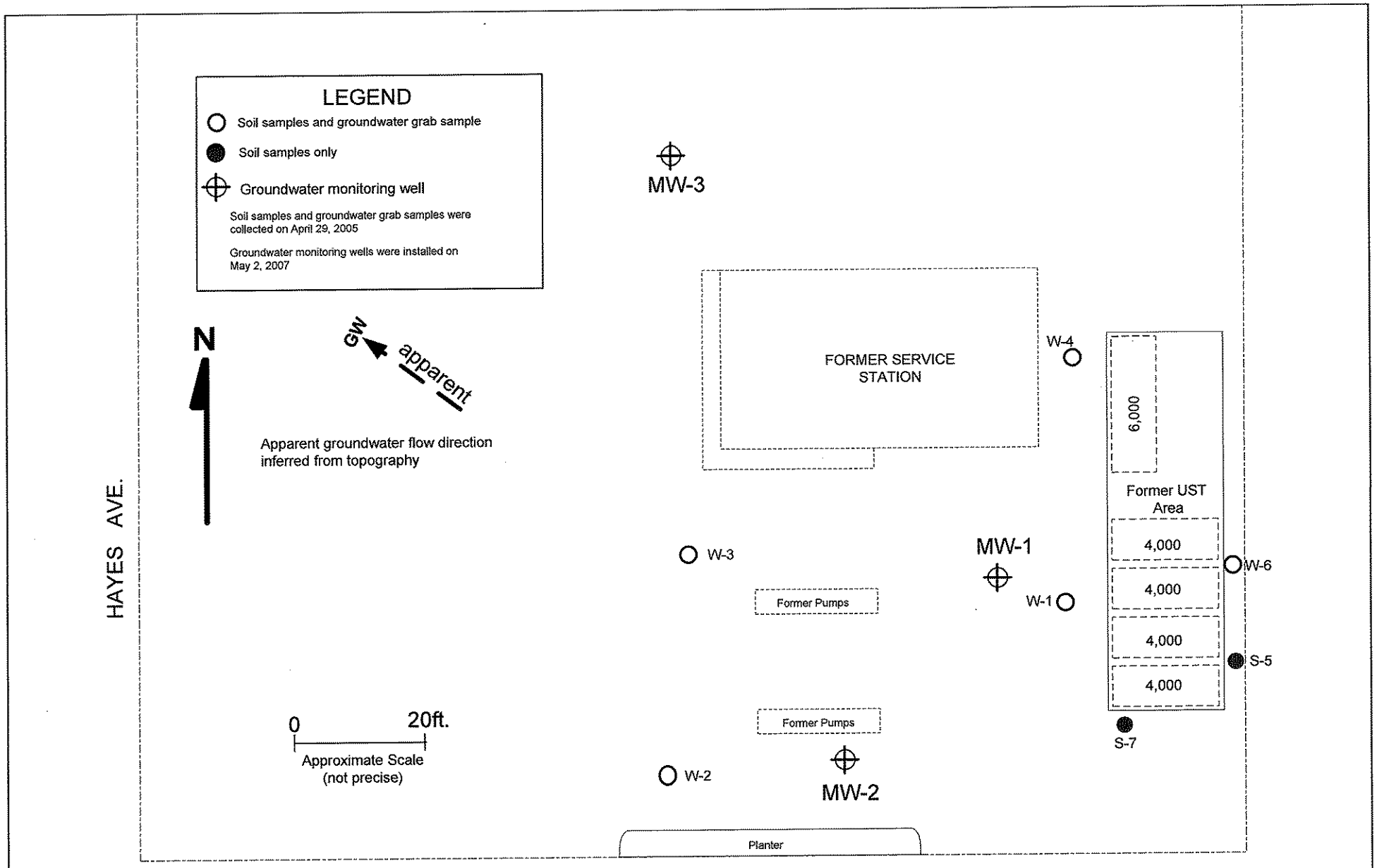
This email provides notification of pending closure for case RO2881, 4186 East Avenue, Livermore.

Jerry Wickham
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502-6577
phone: 510-567-6791
jerry.wickham@acgov.org

FIGURE 1 - VICINITY MAP



ATTACHMENT 1



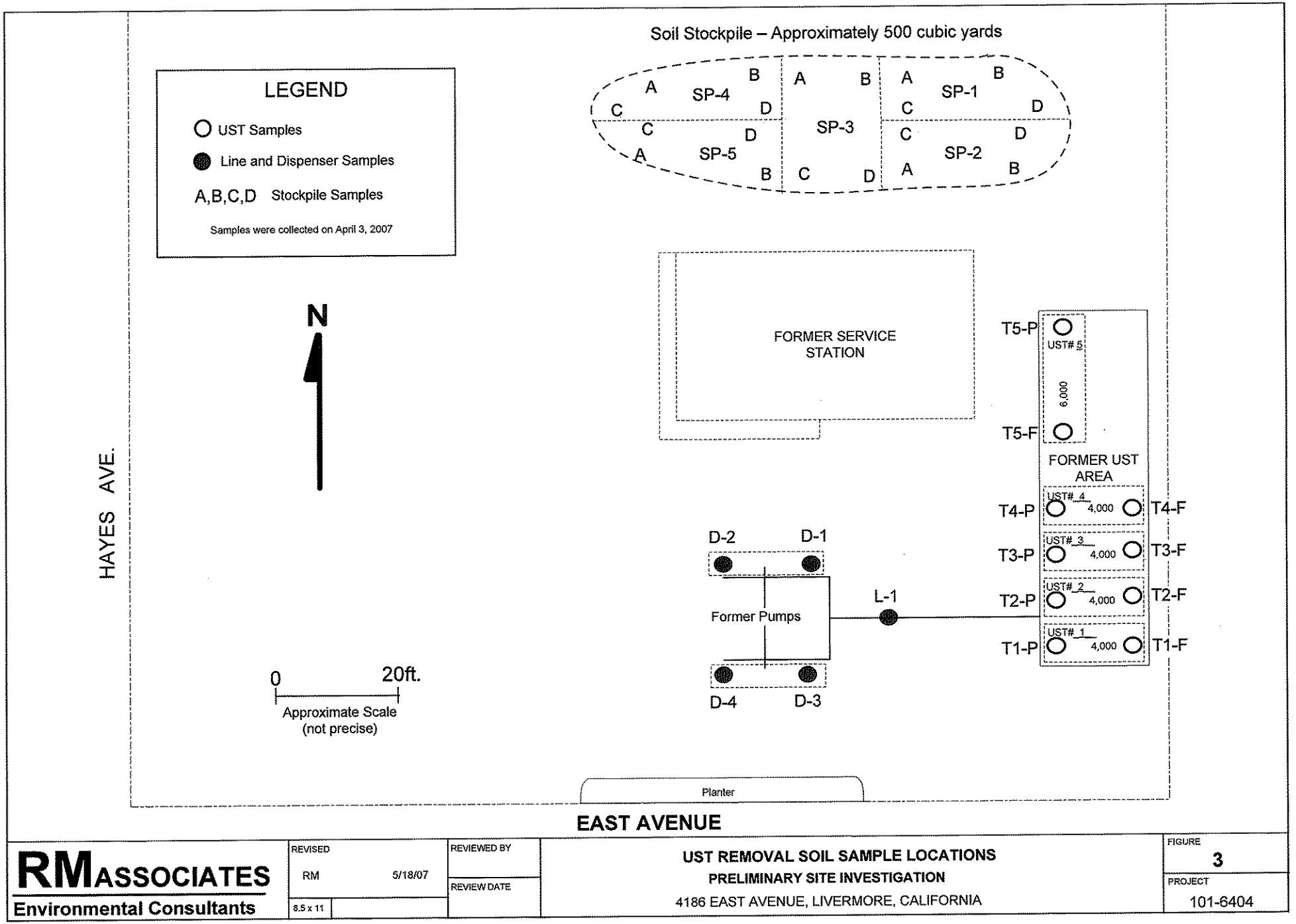
RM ASSOCIATES
Environmental Consultants

REVISED		REVIEWED BY
RM	05/18/07	
8.5 x 11		REVIEW DATE

SITE MAP
SHOWING SOIL BORING AND MONITORING WELL LOCATIONS
PRELIMINARY SITE INVESTIGATION
4186 EAST AVENUE, LIVERMORE, CALIFORNIA

FIGURE 2
PROJECT 101-6404

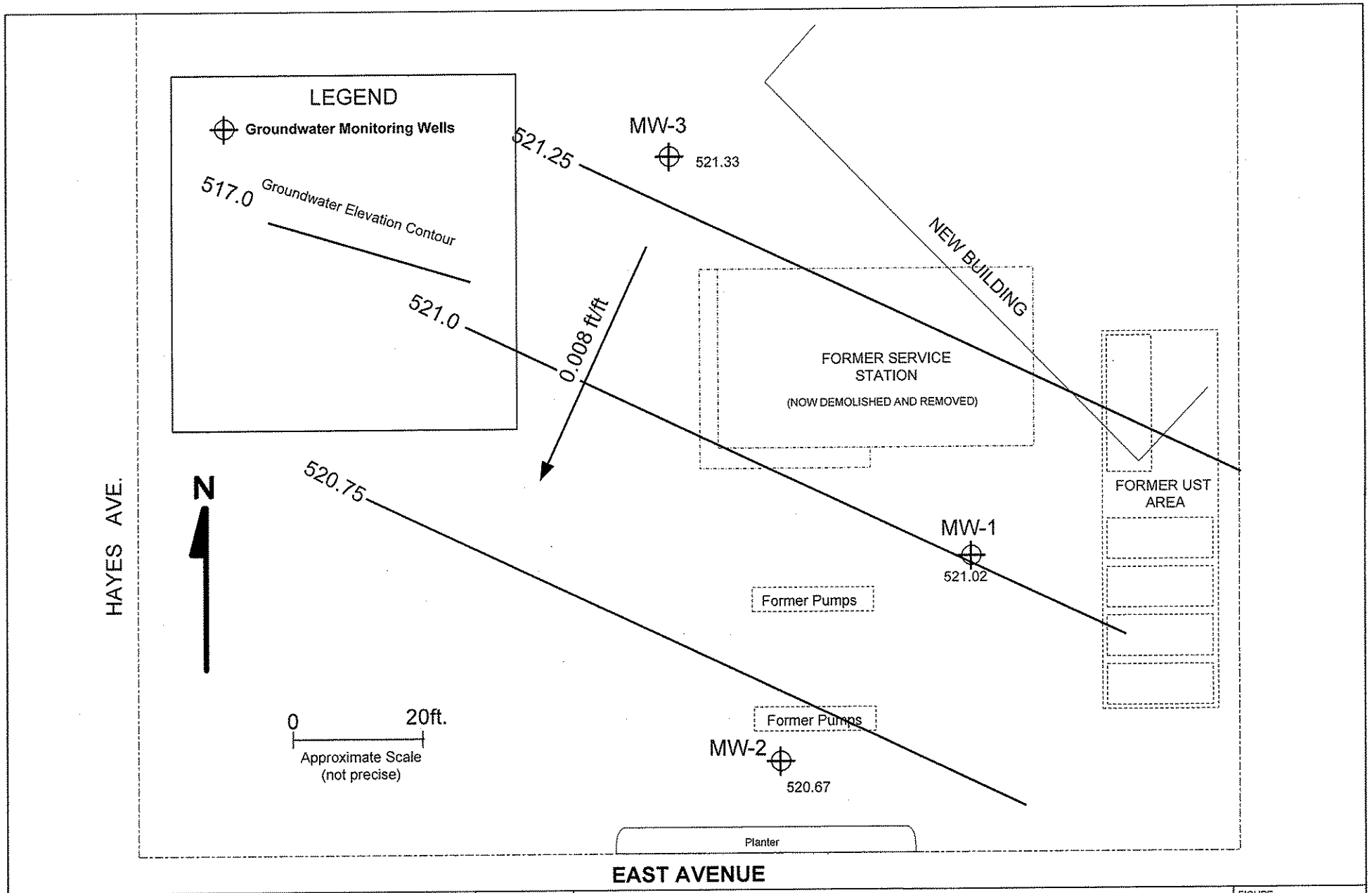
ATTACHMENT 2



RM ASSOCIATES
Environmental Consultants

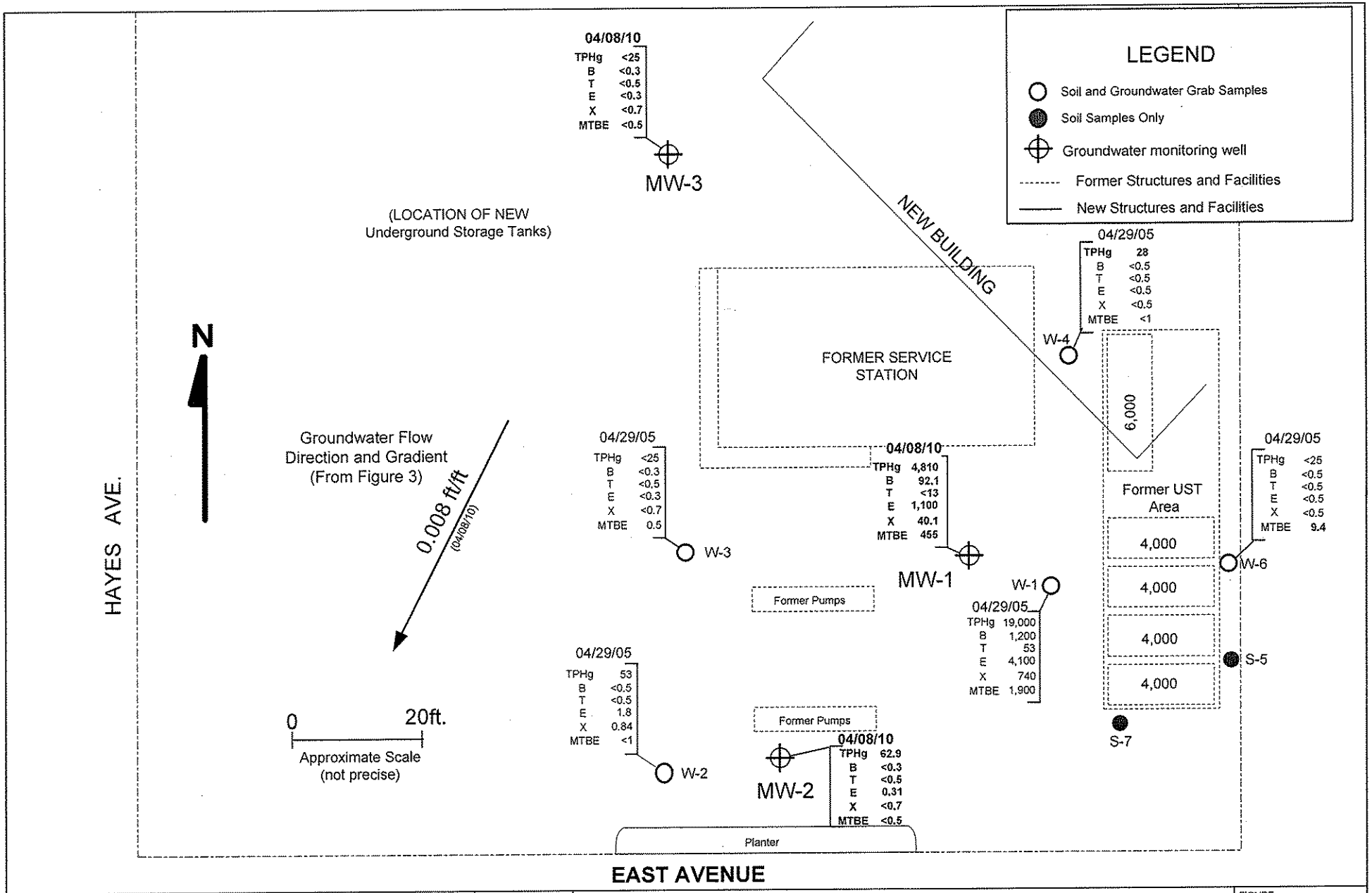
REVISED	REVIEWED BY	FIGURE
RM 5/18/07		3
8.5 x 11	REVIEW DATE	PROJECT 101-6404

UST REMOVAL SOIL SAMPLE LOCATIONS
PRELIMINARY SITE INVESTIGATION
4186 EAST AVENUE, LIVERMORE, CALIFORNIA



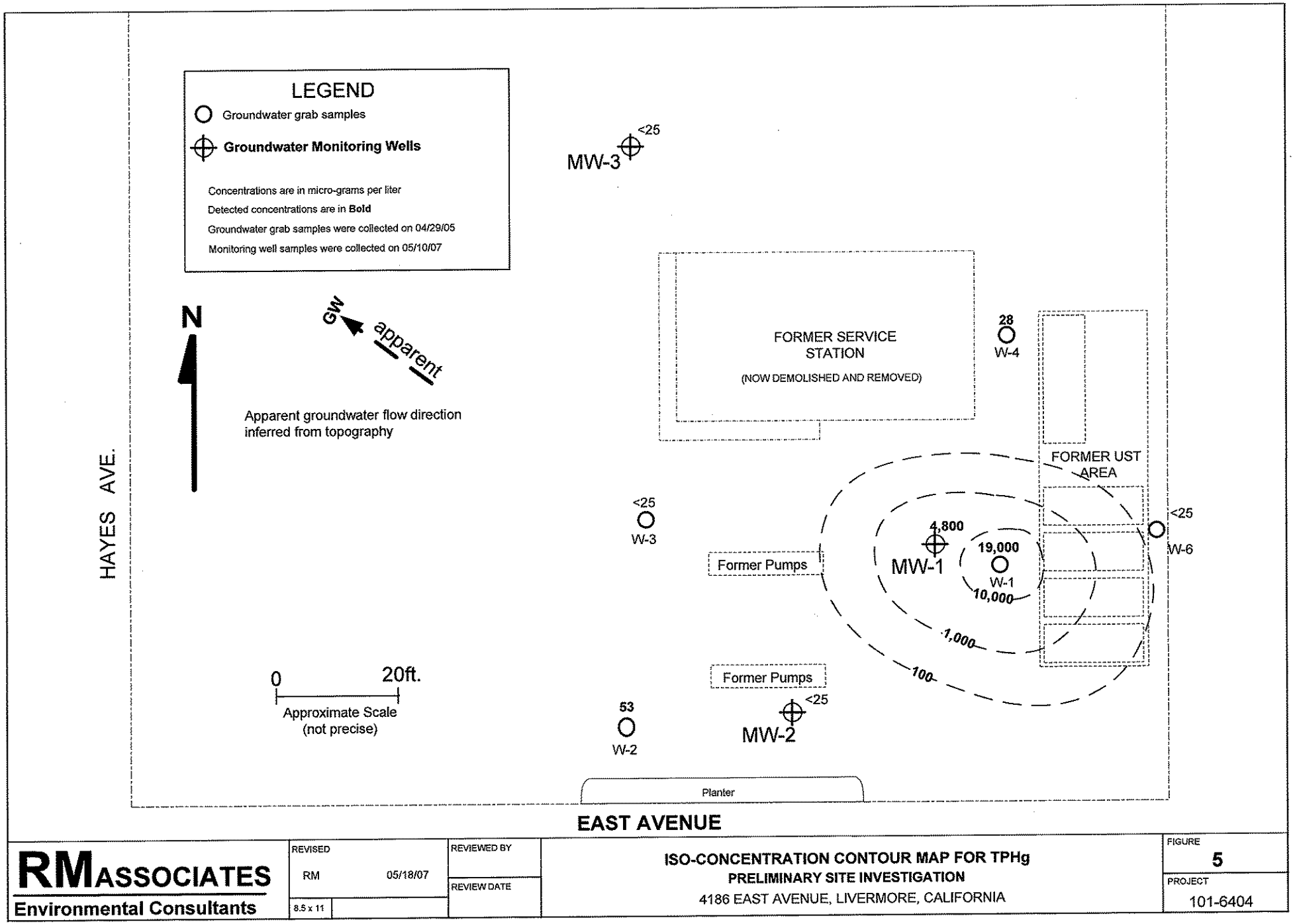
RM ASSOCIATES Environmental Consultants	REVISED RM 05/18/07	REVIEWED BY	**GROUNDWATER ELEVATION CONTOURS (04/08/10)**	FIGURE 3
	8.5 x 11	REVIEW DATE	4186 EAST AVENUE, LIVERMORE, CALIFORNIA	PROJECT 101-6404

ATTACHMENT 3

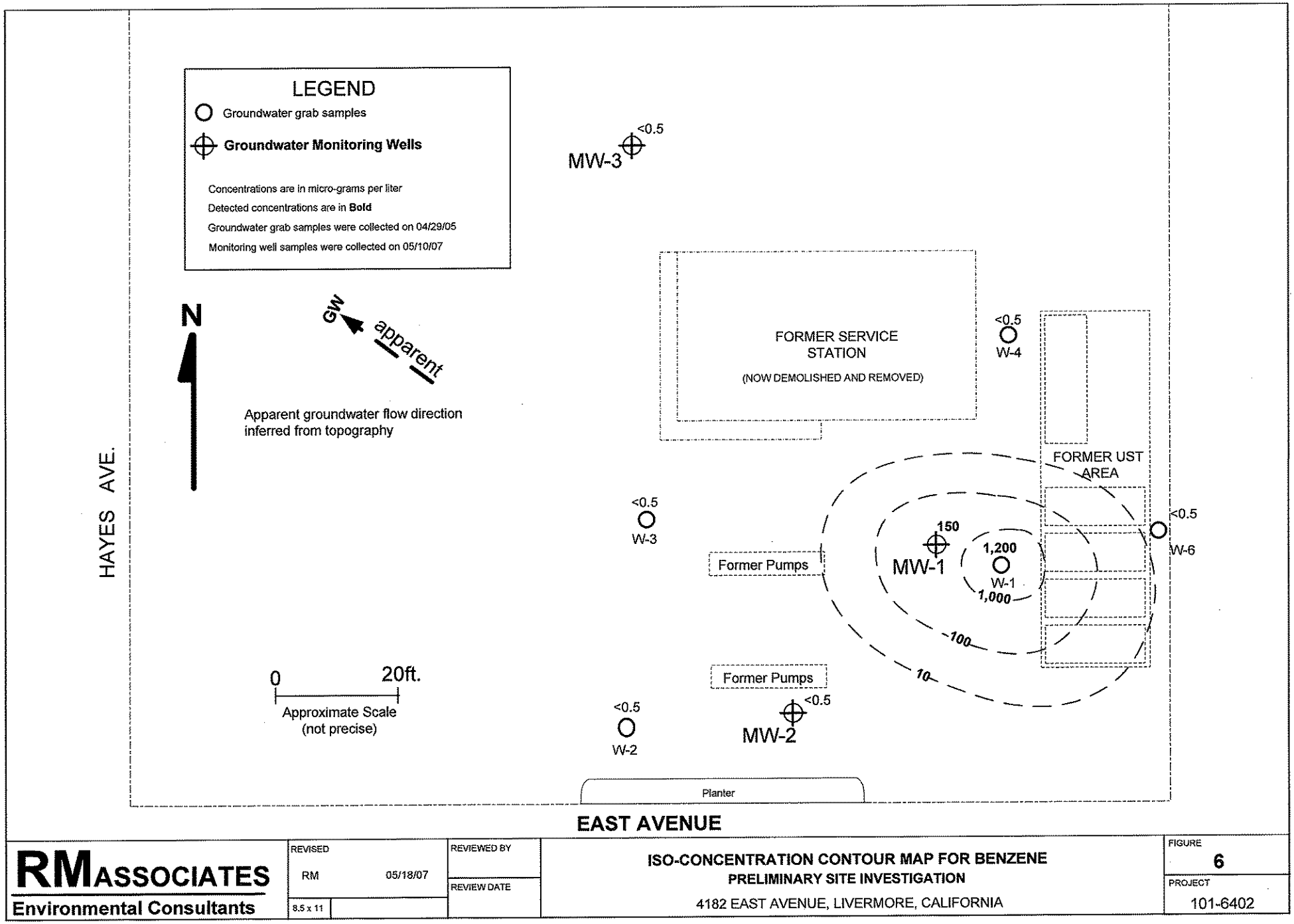


RM ASSOCIATES
Environmental Consultants

REVISED		REVIEWED BY	DISTRIBUTION OF GROUNDWATER ANALYTICAL RESULTS	FIGURE
RM	05/18/07		(Distribution Based on Last Sampling Event at Each Sampling Location)	4
8.5 x 11		REVIEW DATE	4186 EAST AVENUE, LIVERMORE, CALIFORNIA	PROJECT 101-6404



RM ASSOCIATES Environmental Consultants	REVISED RM 05/18/07	REVIEWED BY	**ISO-CONCENTRATION CONTOUR MAP FOR TPHg** **PRELIMINARY SITE INVESTIGATION** 4186 EAST AVENUE, LIVERMORE, CALIFORNIA	FIGURE 5
	8.5 x 11	REVIEW DATE		PROJECT 101-6404



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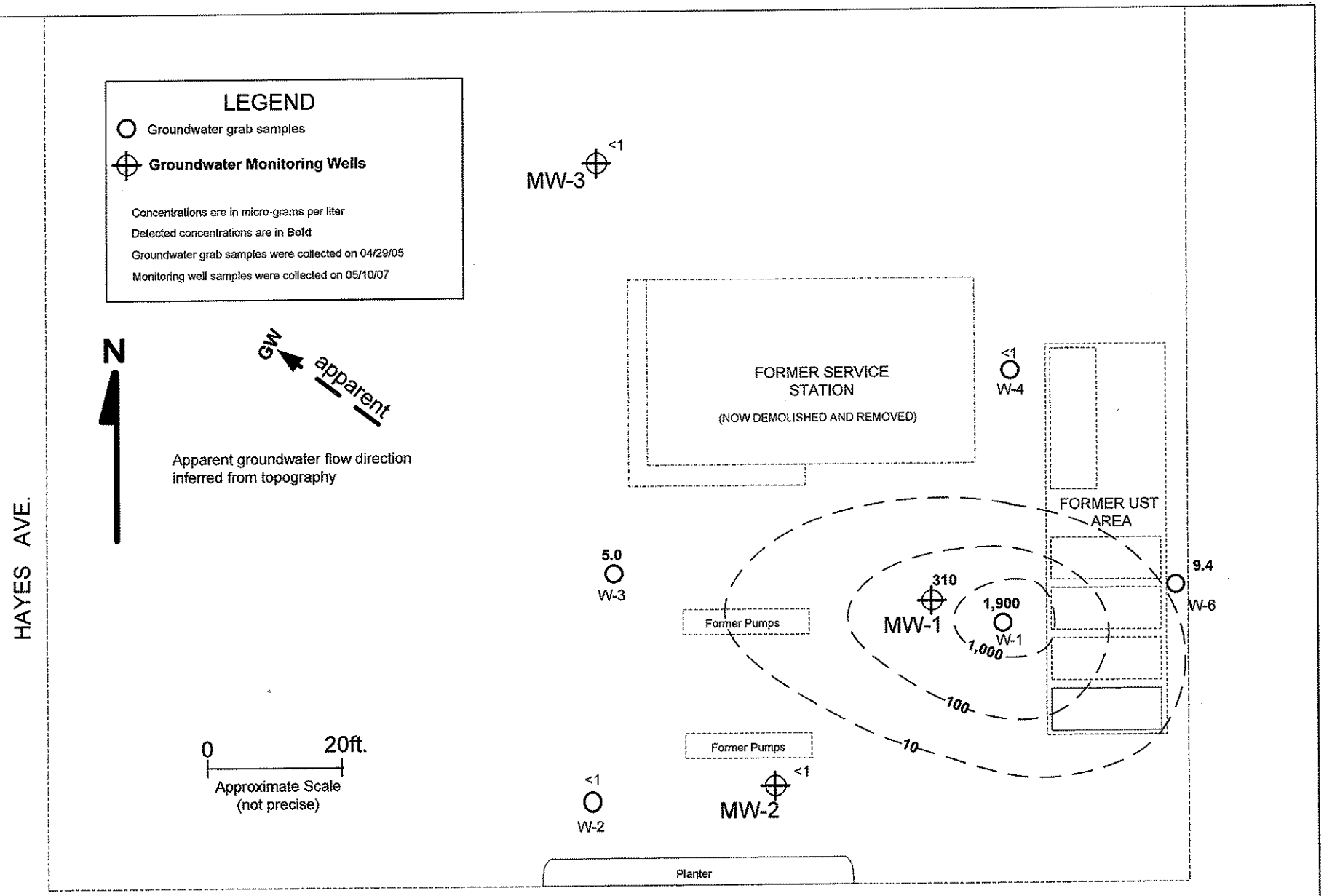
REVISED	REVIEWED BY	ISO-CONCENTRATION CONTOUR MAP FOR BENZENE	FIGURE
RM 05/18/07	REVIEW DATE	PRELIMINARY SITE INVESTIGATION	6
8.5 x 11		4182 EAST AVENUE, LIVERMORE, CALIFORNIA	PROJECT 101-6402



RM ASSOCIATES Environmental Consultants	REVISED RM 05/18/07	REVIEWED BY	**ISO-CONCENTRATION CONTOUR MAP FOR MTBE**	FIGURE 7
	8.5 x 11	REVIEW DATE	**PRELIMINARY SITE INVESTIGATION** 4186 EAST AVENUE, LIVERMORE, CALIFORNIA	PROJECT 101-6404

RM Associates

TABLE 2 - SUMMARY OF SOIL ANALYTICAL RESULTS - UST REMOVAL
Rotten Robbie #64, 4186 East Avenue, Livermore, California

Sample Number	Sample Date	Sample Depth (feet)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl benzene (mg/kg)	Total Xylenes (mg/kg)	TPH as Gasoline (mg/kg)	Total Lead (mg/kg)	MTBE (mg/kg)
UST REMOVAL									
Tanks									
T1-F	04/03/07	10	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.50	5.8	ND<0.050
T1-P	04/03/07	10	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.50	7.8	ND<0.050
T2-F	04/03/07	10	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.50	6.7	ND<0.050
T2-P	04/03/07	10	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.50	26.0	ND<0.050
T3-F	04/03/07	10	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.50	**5.6**	ND<0.050
T3-P	04/03/07	10	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.50	**12.0**	ND<0.050
T4-F	04/03/07	10	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.50	**6.7**	ND<0.050
T4-P	04/03/07	10	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.50	**10.0**	ND<0.050
T5-F	04/03/07	10	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.50	**7.3**	ND<0.050
T5-P	04/03/07	10	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.50	**6.7**	ND<0.050
Dispensers and Lines									
D-1	04/03/07	2.5	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.50	**7.5**	ND<0.050
D-2	04/03/07	2.5	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.50	**5.1**	ND<0.050
D-3	04/03/07	2.5	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.50	**7.0**	ND<0.050
D-4	04/03/07	2.5	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.50	**6.8**	ND<0.050
L-1	04/03/07	2.5	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.50	**5.3**	ND<0.050

Notes:

TPH total petroleum hydrocarbons
MTBE methyl tert-butyl ether
mg/kg milligrams per kilogram
UST underground storage tanks and associated lines and dispensers
Bold **detected above laboratory reporting limit**

ATTACHMENT 4

RM Associates

TABLE 3 - SUMMARY OF SOIL ANALYTICAL RESULTS - STOCK PILE
Rotten Robbie #64, 4186 East Avenue, Livermore, California

Sample Number	Sample Date	Sample Type	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl benzene (mg/kg)	Total Xylenes (mg/kg)	TPH as Gasoline (mg/kg)	TPH as Diesel (mg/kg)	Total Lead (mg/kg)	MTBE (mg/kg)
STOCKPILE COMPOSITE SAMPLES										
SP-1 (ABCD)	04/03/07	Composite	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.50	ND<2.5	**6.9**	ND<0.050
SP-2 (ABCD)	04/03/07	Composite	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.50	ND<2.5	**7.9**	ND<0.050
SP-3 (ABCD)	04/03/07	Composite	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.50	ND<2.5	**7.0**	ND<0.050
SP-4 (ABCD)	04/03/07	Composite	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.50	ND<2.5	**10**	ND<0.050
SP-5 (ABCD)	04/03/07	Composite	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.50	ND<2.5	**6.6**	ND<0.050
STOCK PILE DISCRETE SAMPLE										
SP-6	04/03/07	Discrete	Volitile Organic Compounds by EPA Method 8260B					None Detected		

Notes:

TPH total petroleum hydrocarbons
MTBE methyl tert-butyl ether
mg/kg milligrams per kilogram
Bold **detected above laboratory reporting limit**

RM Associates

TABLE 4 - SUMMARY OF SOIL ANALYTICAL RESULTS - MONITORING WELL INSTALLATION
Rotten Robbie #64, 4186 East Avenue, Livermore, California

Sample Location	Sample Number	Sample Date	Sample Depth	Benzene	Toluene	Ethyl benzene	Total Xylenes	TPH as Gasoline	TPH as Diesel	MTBE
			(feet)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
MW-1	SS-1-10	05/02/07	10	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.50	ND<5	ND<0.050
	SS-1-17	05/02/07	17	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.50	ND<5	**0.23**
	SS-1-21	05/02/07	21	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.50	ND<5	ND<0.050
MW-2	SS-2-10	05/02/07	10	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.50	ND<5	ND<0.050
	SS-2-16	05/02/07	16	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.50	ND<5	ND<0.050
	SS-2-21	05/02/07	21	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.50	ND<5	ND<0.050
MW-3	SS-3-10	05/02/07	10	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.50	ND<5	ND<0.050
	SS-3-15	05/02/07	15	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.50	ND<5	ND<0.050
	SS-3-22	05/02/07	22	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.50	ND<5	ND<0.050

Notes:
TPH total petroleum hydrocarbons
MTBE methyl tert-butyl ether
mg/kg milligrams per kilogram
Bold detected above laboratory reporting limit

RMA

TABLE 1 - SUMMARY OF SOIL ANALYICAL RESULTS
PHASE 11 ENVIRONMENTAL INVESTIGATION
4186 East Avenue, Livermore, California

Sample Location	Sample ID	Sample Depth	Sample Date	TPHg	TPHd	Benzene	Toluene	Ethyl benzene	Xylenes	MTBE
		(feet)		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
W-1	S1-20	20	04/29/05	<2.5	<2.5	<0.025	<0.025	**0.070**	<0.025	**0.33**
	S1-25	25	04/29/05	<2.5	<2.5	<0.025	<0.025	**0.070**	<0.025	**0.30**
W-2	S2-20	20	04/29/05	<2.5	<2.5	<0.025	<0.025	<0.025	<0.025	<0.25
	S2-25	25	04/29/05	<2.5	<2.5	<0.025	<0.025	<0.025	<0.025	<0.25
W-3	S3-20	20	04/29/05	<2.5	<2.5	<0.025	<0.025	<0.025	<0.025	<0.25
W-4	S4-22	22	04/29/05	<2.5	<2.5	<0.025	<0.025	<0.025	<0.025	<0.25
S-5	S5-15	15	04/29/05	<2.5	<2.5	<0.025	<0.025	<0.025	<0.025	<0.25
	S5-20	20	04/29/05	<2.5	<2.5	<0.025	<0.025	<0.025	<0.025	<0.25
W-6	S6-15	15	04/29/05	<2.5	<2.5	<0.025	<0.025	<0.025	<0.025	<0.25
	S6-20	20	04/29/05	<2.5	<2.5	<0.025	<0.025	<0.025	<0.025	<0.25
S-7	S7-25	22	04/29/05	**46**	**290***	<0.1	**0.12**	**0.44**	**0.74**	<1

mg/kg milligrams per kilogram (approximate parts per million)
TPHg total petroleum hydrocarbons as gasoline
TPHd total petroleum hydrocarbons as diesel
MTBE Methyl-t-butyl Ether
Bold **detected above laboratory reporting limit**

RMA

TABLE 6 - SUMMARY OF All GROUNDWATER ANALYICAL RESULTS

4186 East Avenue, Livermore California

Sample ID	Sample Date	TPHg (ug/L)	TPHd (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl benzene (ug/L)	Xylenes (ug/L)	TBA (ug/L)	MTBE (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	1,2-DCA (ug/L)	EDB (ug/L)
Phase II Analytical														
W1	04/29/05	**19,000**	<2,000	**1,200**	**53**	**4,100**	**740**	<1,000	**1,900**	<500	<500	<500	<50	<50
W2	04/29/05	**53**	<50	<0.5	<0.5	**1.8**	**0.84**	<10	<1	<5	<5	<5	<0.5	<0.5
W3	04/29/05	<25	<50	<0.5	<0.5	<0.5	<0.5	<10	**5.0**	<5	<5	<5	<0.5	<0.5
W4	04/29/05	**28**	**55**	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<5	<5	<5	<0.5	<0.5
W6	04/29/05	<25	<50	<0.5	<0.5	<0.5	<0.5	<10	**9.4**	<5	<5	<5	<0.5	<0.5
Grounwater Well Monitoring Analytical														
MW-1	05/07/07	**4,800**	<50	**150**	**7.0**	**620**	**160**	<100	**310**	<50	<50	<50	<5	<5
	11/30/07	**600**	**110**	**30**	**1.2**	**130**	**1.9**	<20	**180**	<10	<10	<10	<1	<1
	02/29/08	**4,800**	**850**	**190**	<10	**1,100**	**130**	<200	**330**	<100	<100	<100	<10	<10
	05/21/08	**2,500**	**520**	**55**	<2.5	**460**	**21**	<50	**150**	<25	<25	<25	<25	<25
	04/09/09	**1,930**	**431**	**66.5**	<3.3	**373**	**21.6**	<33	**85.6**	<3.3	<3.3	<3.3	<2	<1.3
	04/08/10	**4,810**	<47**	**92.1**	<13	**1,100**	**40.1**	<130	**455**	<13	<13	<13	<5	<7.5
MW-2	05/07/07	<50	<52	<0.5	<0.5	<0.5	<0.5	<10	<1	<5	<5	<5	<0.5	<0.5
	11/30/07	NS(DRY)	NS(DRY)	NS(DRY)	NS(DRY)	NS(DRY)	NS(DRY)	NS(DRY)	NS(DRY)	NS(DRY)	NS(DRY)	NS(DRY)	NS(DRY)	NS(DRY)
	02/29/08	**31**	<48	<0.5	<0.5	<0.5	<0.5	<10	<1	<5	<5	<5	<0.5	<0.5
	05/21/08	<25	<50	<0.5	<0.5	<0.5	<0.5	<10	<1	<5	<5	<5	<0.5	<0.5
	04/09/09	**150**	<47	**0.39**	<0.5	**0.56**	**0.99**	<5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.2
	04/08/10	**62.9**	<47	<0.3	<0.5	<0.3	<0.7	<5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.2
MW-3	05/07/07	<50	<52	<0.5	<0.5	<0.5	<0.5	<10	<1	<5	<5	<5	<0.5	<0.5
	11/30/07	<25	<52	<0.5	<0.5	<0.5	<0.5	<10	<1	<5	<5	<5	<0.5	<0.5
	02/29/08	<25	<48	<0.5	<0.5	<0.5	<0.5	<10	<1	<5	<5	<5	<0.5	<0.5
	05/21/08	<25	<50	<0.5	<0.5	<0.5	<0.5	<10	<1	<5	<5	<5	<0.5	<0.5
	04/09/09	<25	<47	<0.30	<0.5	<0.30	<0.7	<5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.2
	04/08/10	<25	<47	<0.30	<0.5	0.31	<0.7	<5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.2

Notes:

TPHg	total petroleum hydrocarbons as gasoline
TPHg	total petroleum hydrocarbons as diesel
mg/kg	milligrams per kilogram
TBA	tert-Butyl Alcohol (tert-Butanol)
MTBE	Methyl tert-Butyl Ether
Bold	**detected above laboratory reporting limit**
DIPE	Di-isopropyl Ether
ETBE	Ethyl tert-Butyl Ether
TAME	tert-Amyl Methyl Ether
1-2 DCA	1, 2 Dichloroethane
EDB	Ethylene Dibromide

ATTACHMENT 5

RM Associates
Environmental Consultants

BORING LOG

Drill Rig:	Rotary	Date Drilled:	04/29/05	Logged By:
Boring Dia:	8 Inches	Boring Number:	**W-1**	R. Michelson

Sample	Blow Counts	Completion	Depth Feet	Lithology	Description
					Asphalt Pavement
					Silty Sandy Gravel, dark brown, angular, dry, no odor, GM
			5		
	22-17-26		10		Silty Sandy Gravel, dark brown, angular, dry, no odor, GM
	9-19-22		15		
					Moist Clayey, Silt, dark brown, hydorcarbon odor, moist, CL
	5-6-7		20		
					Silty Sandy Gravel, med brown, strong hydrocarbon odro, moist, GM
	17-16-14		25		

Completion Notes:

First Water Level (ft.)	25
Static Water Level (ft.)	22

Site:

East Avenue Services
4186 East Avenue
Livermore, CA 96021

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ATTACHMENT 6

RM Associates
Environmental Consultants

BORING LOG

Drill Rig:	Rotary	Date Drilled:	4/29/05	Logged By:
Boring Dia:	8 Inches	Boring Number:	**W-2**	Ron Michelson

Sample	Blow Counts	Completion	Depth Feet	Lithology	Description
					Asphalt Pavement
					Silty Gravel, med brown, moist, no hydrocarbon odor, GM
			5		
	16-22-30		10		
	10-14-22		15		
					Clayey Silt, med brown, moist, no hydrocarbon odor CL
	6-7-8		20		
					Silty sandy, Gravel (fine), moist, no hydrocarbon odor, GM
	9-28-34		25		

Completion Notes:

First Water Level (ft.)	22
Static Water Level (ft.)	22

Site:

East Aveneu Services
4186 East Avenue
Livermore, California 96021

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RM Associates
Environmental Consultants

BORING LOG

Drill Rig:	Rotary	Date Drilled:	4/29/05	Logged By:
Boring Dia:	8 Inches	Boring Number:	**W-3**	Ron Michelson

Sample	Blow Counts	Completion	Depth Feet	Lithology	Description
					Asphalt Pavement
					Silty gravel, medium brouwn, dry, no odor GM
			5		
			10		
			15		
					Clayey Silt, med brown, moist, no hydrocarbon odor CL
	8-8-9		20		
			25		

Completion Notes:

First Water Level (ft.)	22
Static Water Level (ft.)	22

Site:

East Aveneu Services
4186 East Avenue
Livermore, California 96021

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RM Associates
Environmental Consultants

BORING LOG

Drill Rig:	Rotary	Date Drilled:	4/29/05	Logged By:
Boring Dia:	8 Inches	Boring Number:	**W-4**	Ron Michelson

Sample	Blow Counts	Completion	Depth Feet	Lithology	Description
					Asphalt Pavement
					Silt, dark brown, moist CL
			5		Silty fine pebbled Gravel, light brown dry GM
			10		
	20-15-26		15		Silty sandy gravel, large pebbles, medium brown, moist, GM
	7-10-14		20		Clayey Silt with scattered gravel CL
	8-12-17		25		

Completion Notes:

First Water Level (ft.)	23
Static Water Level (ft.)	22

Site:

East Aveneu Services
4186 East Avenue
Livermore, California 96021

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RM Associates
Environmental Consultants

BORING LOG

Drill Rig:	Rotary	Date Drilled:	4/29/05	Logged By:
Boring Dia:	8 Inches	Boring Number:	**W-6**	Ron Michelson

Sample	Blow Counts	Completion	Depth Feet	Lithology	Description
					Asphalt Pavement
					Silty, sandy, Gravel, dark brown, dry GM
			5		
			10		
	13-15-7		15		
					Clayey Silt, dark brown, moist at 20'
	5-7-8		20		
			25		

Completion Notes:

First Water Level (ft.) 22

Static Water Level (ft.) 22

Site:

East Aveneu Services
4186 East Avenue
Livermore, California 96021

Project No.: 101-9901 Page 1

RM Associates
Environmental Consultants

BORING LOG

Drill Rig:	Rotary	Date Drilled:	4/29/05	Logged By:
Boring Dia:	8 Inches	Boring Number:	**S-5**	Ron Michelson

Sample	Blow Counts	Completion	Depth Feet	Lithology	Description
					Asphalt Pavement
					Silt, sandy with scattered gravel, dark brouwn
			5		
					Gravel, well sorted, medium brown, dry, GP
			10		
					Silty sandy gravel, medium brown, slightly moist, GM
	8-13-19		15		
	5-7-10		20		
			25		

Completion Notes:

First Water Level (ft.) NA

Static Water Level (ft.) NA

Site:

East Aveneu Services
4186 East Avenue
Livermore, California 96021

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RM Associates
Environmental Consultants

BORING LOG

Drill Rig:	Rotary	Date Drilled:	4/29/05	Logged By:
Boring Dia:	8 Inches	Boring Number:	**S-7**	Ron Michelson

Sample	Blow Counts	Completion	Depth Feet	Lithology	Description
					Asphalt Pavement
					Gravel, silty, sandy, dark brown, dry
			5		
					Gravel, sandy, greenish brown, dry
			10		
					Silty sandy gravel, dark brown, dry, slight hydrocarbon odor
			15		
					Clayey Silt, greenish discollored, hydrocarbon odor
			20		
			25		

Completion Notes:

First Water Level (ft.) NA

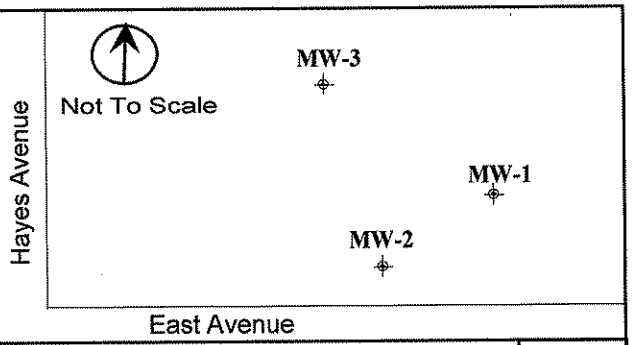
Static Water Level (ft.) NA

Site:

East Aveneu Services
4186 East Avenue
Livermore, California 96021

Project No.: 101-9901 Page 1

Well Name	**MW-1**
Client	RM Assoc.
Location	RR #64 - 4186 East Ave., Livermore, CA
Date	05/02/07
Drilling Co.	Exploration Geoservices, Inc. (C-57#: 484288)
Drilling Method	Hollow-Stem Augers (8")
Sampling Method	2" CA Modified Split-Spoon Sampler
Well Casing	2" Sch 40 PVC / 0.020 casing / #3 Sand
Logged By	Forrest Cook PG # 8201

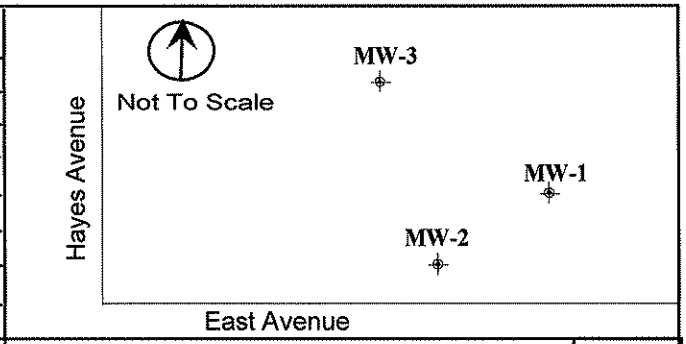


Laboratory Analyzed Sample ID	Sample Depth (feet)	Blows per 6 in.	Moisture Content	Product Odor	Depth in Feet	Graphic Log	Soil Description	Well Const.
	0 - 1.5	3 4 4	MOIST	NO	0		Clayey Gravel (GC), dark brown, moist, loose, clay matrix, with quartz and chert cobbles.	
	1.5 - 3.0	4 5 4	MOIST	NO	2			
	3.0 - 4.5	4 5 7	MOIST	NO	4			
	4.5 - 6.0	4 7 13	MOIST	NO	6		Sandy Gravel (GW), light brown, moist, medium dense to dense, subrounded gravel matrix, with many cobbles greater than 2-inches.	
	6.0 - 7.5	11 12 13	MOIST	NO				
	7.5 - 9.0	10 12 9	MOIST	NO	8			
SS-1-10	9.0 - 10.5	6 10 11	MOIST	NO	10			
	10.5 - 12.0	8 10 14	MOIST	NO	12			
	12.0 - 13.5	6 8 7	MOIST	NO			Silty Sand (SM), light brown, moist, fine.	
	13.5 - 15.0	10 14 16	MOIST	SLIGHT	14		Sandy Gravel (GW), light gray, moist,medium dense, coarse sand matrix.	
	15.0 - 16.5	6 7 7	MOIST	SLIGHT	16			
SS-1-17	16.5 - 18.0	6 6 7	MOIST	NO			Silty Clay (CL),light gray, moist, stiff, estimated low plasticity, with trace fine sand.	
	18.0 - 19.5	5 6 8	MOIST	NO	18			
SS-1-21	19.5 - 21.0	5 6 10	MOIST	NO	20			
	21.0 - 22.5	12 13 18	WET	SLIGHT			= Initial Water at approximately 22.0 feet	
	22.5 - 24.0	9 15 25	WET	SLIGHT	22		Sandy Gravel (GW), light gray, wet, medium dense to dense, subrounded gravel matrix.	
	24.0 - 25.5	7 8 10	WET	SLIGHT	24			
	25.5 - 27.0	9 14 20	WET	NO	26			
	27.0 - 28.5	12 20 15	WET	NO	28			
	28.5 - 30.0	7 10 18	WET	NO	30		Total Depth Explored 30 feet bgs	
					32			
					34		0.020 Slotted Casing 15' - 30' #3 Sand 13' - 30' Bentonite 10' - 13' Grout 10' - surface	
					36			
					38			
					40			

GEORESTORATION, INC.

WELL LOG [MW-1]
Page 1 of 1

Well Name	**MW-2**
Client	RM Assoc.
Location	RR #64 - 4186 East Ave., Livermore, CA
Date	05/02/07
Drilling Co.	Exploration Geoservices, Inc. (C-57#484288)
Drilling Method	Hollow-Stem Augers (8")
Sampling Method	2" CA Modified Split-Spoon Sampler
Well Casing	2" Sch 40 PVC / 0.020 casing / #3 Sand
Logged By	Forrest Cook PG # 8201



Laboratory Analyzed Sample ID	Sample Depth (feet)	Blows per 6 in.	Moisture Content	Product Odor	Soil Description
	0 - 1.5	4 5 5	MOIST	NO	Clayey Gravel (GC), dark brown, moist, medium dense, clay matrix, gravel is subrounded.
	1.5 - 3.0	5 6 9	MOIST	NO	
	3.0 - 4.5	4 5 12	MOIST	NO	
	4.5 - 6.0	50 for 1"	MOIST	NO	Sandy Gravel (GW), light brown, moist, medium dense to very dense subrounded gravel matrix, with cobbles greater than 2-inches.
	6.0 - 7.5	7 14 18	MOIST	NO	
	7.5 - 9.0	8 17 28	MOIST	NO	
SS-2-10	9.0 - 10.5	13 28 31	MOIST	NO	
	10.5 - 12.0	13 30 20	MOIST	NO	
	12.0 - 13.5	10 14 20	MOIST	NO	Clayey Gravel (GC), dark brown, moist, dense, clay matrix, with quartz cobbles greater than 2-inches.
	13.5 - 15.0	10 12 7	MOIST	NO	
SS-2-16	15.0 - 16.5	5 5 6	MOIST	NO	Silty Clay (CL), light brown, moist, stiff, estimated low plasticity, with trace fine sand.
	16.5 - 18.0	3 3 5	MOIST	NO	
	18.0 - 19.5	3 4 6	MOIST	NO	
SS-2-21	19.5 - 21.0	3 5 8	MOIST	NO	▽ = Initial Water at approximately 21.0 feet
	21.0 - 22.5	5 7 8	WET	NO	Sandy Gravel (GW), light brown, wet, medium dense, subrounded gravel matrix.
	22.5 - 24.0	4 5 7	WET	NO	Gravelly Sand (SW), light brown, wet, coarse.
	24.0 - 25.5	5 8 12	WET	NO	Sandy Gravel (GW), light brown, wet, dense to very dense, subrounded gravel matrix.
	25.5 - 27.0	11 21 23	WET	NO	
	27.0 - 28.5	30 23 30	WET	NO	

Total Depth Explored 29 feet bgs

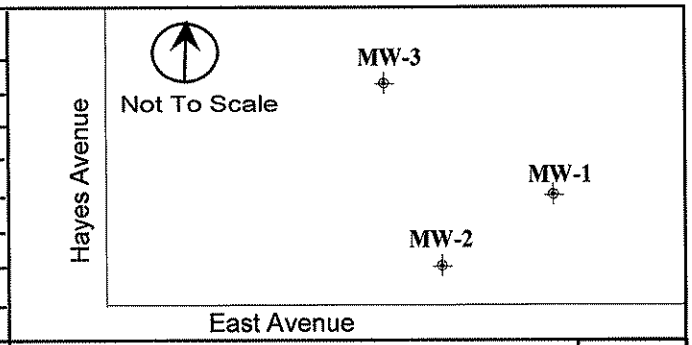
Well Const.

0.020 Slotted Casing 14' - 29'
#3 Sand 12' - 29'
Bentonite 9' - 12'
Grout 9' - surface

GEORESTORATION, INC.

WELL LOG [MW-2]
Page 1 of 1

Well Name	**MW-3**
Client	RM Assoc.
Location	RR #64 - 4186 East Ave., Livermore, CA
Date	05/02/07
Drilling Co.	Exploration Geoservices, Inc. (C-57#484288)
Drilling Method	Hollow-Stem Augers (8")
Sampling Method	2" CA Modified Split-Spoon Sampler
Well Casing	2" Sch 40 PVC / 0.020 casing / #3 Sand
Logged By	Forrest Cook PG # 8201



Laboratory Analyzed Sample ID	Sample Depth (feet)	Blows per 6 in.	Moisture Content	Product Odor	Depth in Feet	Graphic Log	Soil Description	Well Const.
	0 - 1.5	7 8 12	MOIST	NO	0		Clayey Gravel (GC), dark brown, moist, medium dense, clay matrix, gravel is subrounded with cobbles greater than 2-inches.	
	1.5 - 3.0	4 7 8	MOIST	NO	2			
	3.0 - 4.5	8 10 11	MOIST	NO	4			
	4.5 - 6.0	5 10 8	MOIST	NO	6		Sandy Gravel (GW), dark brown, moist, medium dense to dense, subrounded gravel matrix, with many cobbles greater than 2-inches.	
	6.0 - 7.5	4 7 24	MOIST	NO				
	7.5 - 9.0	9 14 26	MOIST	NO	8			
SS-3-10	9.0 - 10.5	9 12 13	MOIST	NO	10		decreasing cobbles.	
	10.5 - 12.0	12 10 15	MOIST	NO	12		Clayey Gravel (GC), dark brown, moist, medium dense, clay matrix, gravel is subrounded, with cobbles increasing in size with depth.	
	12.0 - 13.5	11 12 16	MOIST	NO				
SS-3-15	13.5 - 15.0	5 7 11	MOIST	NO	14			
	15.0 - 16.5	11 12 14	MOIST	NO	16		Sandy Clay (CL), light brown, moist, stiff, to very stiff, estimated low plasticity, sand is fine.	
	16.5 - 18.0	6 5 6	MOIST	NO				
	18.0 - 19.5	5 8 12	MOIST	NO	18			
	19.5 - 21.0	6 10 14	MOIST	NO	20		Clayey Gravel (GC), dark brown, moist to wet, medium dense to dense, clay matrix, gravel is subrounded with cobbles greater than 2-inches.	
SS-3-22	21.0 - 22.5	9 14 21	WET	NO	22			
	22.5 - 24.0	8 10 10	WET	NO				
	24.0 - 25.5	7 8 15	WET	NO	24		Sandy Gravel (GW), light gray, wet, medium dense, subrounded gravel matrix.	
	25.5 - 27.0	15 15 12	WET	NO	26			
	27.0 - 28.5	9 12 15	WET	NO				
	28.5 - 30.0	8 7 5	WET	NO	28		Silty Clay (CL), light brown, wet, stiff.	
					30		Total Depth Explored 30 feet bgs	
					32		▽ = Initial Water at approximately 22.0 feet	
					34		0.020 Slotted Casing 15' - 30' #3 Sand 13' - 30' Bentonite 10' - 13' Grout 10' - surface	
					36			
					38			
					40			

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WELL LOG [MW-3]
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