

November 16, 2000
RGA Job # HSHI3908
Report 0164.R7

Mr. Roger England
Hardage Construction Corporation Site
5800 Shellmound Street
Emeryville, CA 94608

RE: QUARTERLY MONITORING AND SAMPLING REPORT
Hardage Construction Corporation Site
5800 Shellmound Street
Emeryville, CA 94608

00 DEC - 8 PM 4: 05

Dear Mr. England:

RGA Environmental, Inc. (RGA) is pleased to present this report documenting the results of the monitoring and sampling of the seven groundwater monitoring wells at the subject site. The wells are designated as ATD1B, ATD2A, ATD3, ATD4A, ATD5, ATD6, and ATD7. The wells were monitored and sampled on October 25 and 26, 2000. The monitoring and sampling was performed to evaluate groundwater conditions as part of the quarterly monitoring and sampling program requested by Ms. Susan Hugo of the Alameda County Department of Environmental Health (ACDEH). A Site Location Map (Figure 1) and Site Plan (Figure 2) are attached with this report.

All work was performed under the direct supervision of an appropriately registered professional. This report is prepared in accordance with guidelines set forth in the document "Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites" dated August 10, 1990 and "Appendix A - Workplan for Initial Subsurface Investigation" dated August 20, 1991.

BACKGROUND

A summary of investigations performed at the subject site is provided in RGA's "Environmental Site Assessment Update Report" dated December 11, 1997. A total of seven groundwater monitoring wells were installed at the site by others during previous subsurface investigations. Based on discussions with Ms. Susan Hugo of the ACDEH, the seven groundwater monitoring wells were determined to be adequate to characterize groundwater conditions at the subject site. One of the wells installed by others (ATD1) appeared to have been destroyed by others, and was subsequently replaced with a well designated as ATD1A. One of the wells installed by others (ATD2) was destroyed and replaced with well ATD2A because the wellhead had been removed during construction and the well had filled with gravel.



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510 547 7771
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One of the wells (ATD4) was destroyed and replaced with well ATD4A so as not to be located within the footprint of the new hotel at the site. Installation of the three wells was performed to restore the site groundwater monitoring network to a total of seven wells. Documentation of replacement of the wells is provided in RGA's report 0164.R4, "Well Installation Report," dated May 2, 2000.

Recent quarterly monitoring and sampling activity revealed that one well in the system (ATD1A) was partially full of sand. Documentation of attempts to flush and purge the sand out of ATD1A with clean water can be found in RGA's Report 0164.R5, "Quarterly Monitoring and Sampling Report," dated September 6, 2000. The sand in the well was the sand used for construction of the well filter pack. Based upon repeated attempts to remove the sand, it was determined that well replacement was appropriate. A Monitoring Well Replacement Work Plan (Letter 0164.L29) dated September 13, 2000 was submitted to the ACDEH for review and approval. The work plan was verbally approved by Ms. Susan Hugo of the ACDEH on September 19, 2000. On October 2, 2000, RGA personnel oversaw the destruction of ATD1A and the installation of one replacement groundwater monitoring well, designated as ATD1B, in the same borehole. Documentation of replacement of this well is provided in RGA's Report 0164.R6, "Monitoring Well Replacement Report," dated October 25, 2000.

FIELD ACTIVITIES

On October 25 and 26, 2000, the seven groundwater monitoring wells at the site (designated as ATD1B, ATD2A, ATD3, ATD4A, ATD5, ATD6, and ATD7 on the attached Site Plan) were monitored by RGA personnel. The groundwater monitoring wells were monitored for depth to water and the presence of free product or sheen. Depth to water was measured to the nearest 0.01 foot using an electric water level indicator, and the presence of free product or sheen was evaluated using a transparent bailer. No sheen was observed on the water from any of the wells. Free product was not observed in any of the wells except well ATD6. The thickness of the free product was not determined in well ATD6. A faint sulfurous odor was detected from well ATD2A, and a creosote-like odor was detected from well ATD6. Depth to water level measurements for the wells are presented in Table 1. No groundwater surface elevations could be calculated for the site because the well head elevations have not been surveyed.

All of the wells except for ATD6 were sampled on October 25 and 26, 2000. Well ATD6 was not sampled because of the presence of free product in the well. After monitoring and prior to sampling, the monitoring wells were purged of a minimum of three casing volumes of water or until the wells were purged dry. During purging operations, the field parameters of electrical conductivity, temperature and pH were monitored. Once the field parameters were observed to stabilize, and a minimum of three casing volumes had been purged or the wells had been purged dry and partially recovered, water samples were collected using a clean Teflon bailer. Records of the field parameters measured during well purging are attached with this report.

The water samples were transferred to 40-milliliter glass Volatile Organic Analysis (VOA) vials and 1-liter amber glass bottles which were sealed with Teflon-lined screw caps, and to plastic polypropylene bottles which were sealed with plastic screw caps. The VOA vials were overturned and tapped to assure that no air bubbles were present.

The VOA vials and bottles were then transferred to a cooler with ice, until they were transported directly to McCampbell Analytical, Inc. in Pacheco, California. McCampbell Analytical, Inc. is a State-Certified hazardous waste testing laboratory. Chain of custody documentation accompanied the samples to the laboratory.

HYDROGEOLOGY

Water levels were measured in the monitoring wells once during the quarter. The measured depth to water in wells ATD1B through ATD7 ranged from 3.56 to 6.59 feet. Although groundwater flow direction and gradient cannot presently be determined (the wellhead elevations have not been surveyed), review of previous reports by others have shown that the groundwater flow direction at the site is westerly. The groundwater monitoring data collected during this monitoring and sampling episode is presented in Table 1.

LABORATORY RESULTS

The groundwater samples collected on October 25 and 26, 2000 from monitoring wells ATD1B, ATD2A, ATD3, ATD4A, ATD5, and ATD7 were analyzed for the following constituents: Total Petroleum Hydrocarbons as Diesel (TPH-D) using EPA Method 3510 in conjunction with Modified EPA Method 8015; benzene, toluene, ethylbenzene, and xylenes (BTEX) using EPA Method 8020, and the RCRA 8 metals (arsenic, barium, cadmium, chromium, mercury, lead, selenium, and silver) by various EPA-approved methods. The groundwater sample from monitoring well ATD6 was analyzed using Fuel Fingerprint methodology using EPA Method 3510 and Modified EPA Method 8015.

The laboratory analytical results of the groundwater samples collected on October 25 and 26, 2000 show: that TPH-D was detected in wells ATD2A, ATD4A, ATD5, and ATD7 at concentrations ranging from 0.23 to 0.7 ppm, except for well ATD4A, where TPH-D was detected at a concentration of 2.9 ppm. TPH-D was not detected in wells ATD1B and ATD3. Benzene was detected in well ATD2A at 0.0024 ppm and in well ATD4A at 0.0023 ppm, and was not detected in any other well. Review of the laboratory analytical reports indicates that all of the TPH-D results are described by the laboratory as both diesel-range and oil-range compounds.

The laboratory analytical results for the RCRA 8 metals for the groundwater samples collected on October 25 and 26, 2000 show: that cadmium, chromium, mercury, selenium and silver were not detected in any of the wells. Arsenic was detected in wells ATD2A, ATD4A, and ATD5 at concentrations of 0.0077, 0.23 and 0.022 ppm, respectively. Barium was detected in wells ATD1B, ATD3, ATD4A, and ATD7 at concentrations

ranging from 0.078 to 0.16 ppm. Lead was detected in wells ATD4A and ATD5 at concentrations of 0.12 ppm and 0.027, respectively.

The laboratory analytical results for the Fuel Fingerprint analysis of the groundwater sample from well ATD6 had the following qualitative result: "The chromatogram for this sample shows a significant hydrocarbon pattern between C9 and C12 [hydrocarbon chains with lengths of between nine and 12 carbons] that resembles Stoddard solvent. A second significant hydrocarbon pattern is present between C18 and C30 [similarly, hydrocarbon chains with lengths of between 18 and 30 carbons] in the oil range."

Since the previous quarter when wells ATD1A, ATD2A, ATD3, ATD4A, ATD5, and ATD7 were sampled on July 17 and 18, 2000, TPH-D and benzene concentrations have decreased or remained unchanged, except in well ATD2A where concentrations of both increased. Similarly, since the previous quarterly monitoring and sampling episode, concentrations of the RCRA 8 metals have decreased or remained unchanged except in well ATD5, where the concentration of arsenic increased, and well ATD7, where the concentration of barium increased. The laboratory analytical results for organic compound analysis of the groundwater samples are summarized in Table 2. Laboratory analytical results for metals analysis of the groundwater samples are summarized in Table 3. Copies of the laboratory analytical reports and chain of custody documentation are attached with this report.

DISCUSSION AND RECOMMENDATIONS

Well ATD1A was destroyed and replaced with well ATD1B prior to monitoring and sampling for this quarterly event. All of the wells were monitored, and all but one of the wells were sampled one time during the quarter. Separate phase floating hydrocarbons were detected in well ATD6, and a groundwater sample was therefore not detected from the well. However, a sample of the separate phase hydrocarbon layer was collected for analysis. The thickness of the hydrocarbon layer was not measured in well ATD6. The thickness of floating separate phase hydrocarbon layers detected during quarterly monitoring events will be measured.

The sample results showed that TPH-D was detected in wells ATD2A, ATD4A, ATD5, and ATD7 at concentrations ranging from 0.23 to 0.7 ppm, except for well ATD4A, where TPH-D was detected at a concentration of 2.9 ppm. TPH-D was not detected in wells ATD1B and ATD3. Benzene was detected in well ATD2A at 0.0024 ppm and in well ATD4A at 0.0023 ppm; and was not detected in any other well. Review of the laboratory analytical reports indicates that all of the TPH-D results are described by the laboratory as both diesel-range and oil-range compounds.

The analytical results of the separate phase hydrocarbon sample collected from ATD6 showed the hydrocarbons to consist of Stoddard Solvent and oil-range compounds. None of the RCRA metals were detected at concentrations exceeding their respective MCL values with the exception of arsenic and lead in well ATD4A.

Because the wellhead elevations have not been surveyed, it was not possible to use the well monitoring data to determine groundwater flow direction at the site. RGA recommends that the wellhead elevations be surveyed vertically after well ATD1A is replaced.

Based on the sample results, RGA recommends that the quarterly groundwater monitoring and sampling program be continued.

LIMITATIONS

This report was prepared solely for the use of Hardage Construction Corporation. The content and conclusions provided by RGA in this assessment are based on information collected during our investigation, which may include, but not be limited to, visual site inspections; interviews with site owner, regulatory agencies and other pertinent individuals; review of available public documents; subsurface exploration and our professional judgement based on said information at the time of preparation of this document. Any subsurface sample results and observations presented herein are considered to be representative of the area of investigation; however, geological conditions may vary between borings and may not necessarily apply to the general site as a whole. If future subsurface or other conditions are revealed which vary from these findings, the newly revealed conditions must be evaluated and may invalidate the findings of this report.

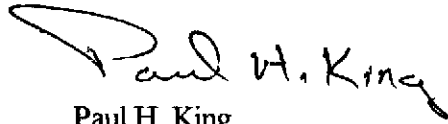
This report is issued with the understanding that it is the responsibility of the owner, or his representative, to ensure that the information contained herein is brought to the attention of the appropriate regulatory agencies, where required by law. Additionally, it is the sole responsibility of the owner to properly dispose of any hazardous materials or hazardous wastes left onsite, in accordance with existing laws and regulations.

This report has been prepared in accordance with generally accepted practices using standards of care and diligence normally practiced by recognized consulting firms performing services of a similar nature. RGA is not responsible for the accuracy or completeness of information provided by other individuals or entities which is used in this report. This report presents our professional judgement based upon data and findings identified in this report and interpretation of such data based upon our experience and background, and no warranty, either express or implied, is made. The conclusions presented are based upon the current regulatory climate and may require revision if future regulatory changes occur.

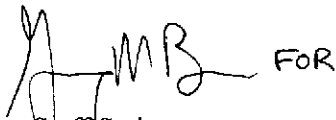
Should you have any questions, please do not hesitate to call us at (510) 547-7771.

Sincerely,

RGA Environmental



Paul H. King
California Registered Geologist
Registration No.: 5907
Expires: 12/31/01



Steff Steiner
Project Manager

Attachments: Tables 1, 2, & 3
Site Location Map (Figure 1)
Site Plan Showing Well Locations (Figure 2)
Monitoring Well Purge Data Sheets
Laboratory Analytical Results
Chain of Custody Documentation

PHK/gmb
0164.R7

**TABLE 1
WELL MONITORING DATA**

Well No.	Date Monitored	Top of Casing Elev. (ft.)	Depth to Water (ft.)	Water Table Elev. (ft.)
ATD1B+	10/25/00	Unknown	3.56	Unknown
ATD1A+	8/15/00	Unknown	3.90	Unknown
	8/10/00	Unknown	6.10	Unknown
	7/17/00	Unknown	5.22	Unknown
ATD2A	10/25/00	Unknown	3.95	Unknown
	7/17/00	Unknown	3.91	Unknown
	8/26/98	Unknown	3.77	Unknown
ATD3	10/26/00	Unknown	3.91	Unknown
	7/17/00	Unknown	3.64	Unknown
	8/26/98	Unknown	3.37	Unknown
ATD4A	10/26/00	Unknown	6.59	Unknown
	7/17/00	Unknown	4.30	Unknown
ATD5	10/25/00	Unknown	6.21	Unknown
	7/17/00	Unknown	5.96	Unknown
	11/9/97	Unknown	3.85	Unknown
	11/5/97	Unknown	3.92	Unknown
ATD6	10/25/00	Unknown	5.80	Unknown
	7/17/00	Unknown	5.65	Unknown
ATD7	10/26/00	Unknown	4.85	Unknown
	7/17/00	Unknown	4.91	Unknown
	11/9/97	Unknown	5.23	Unknown
	11/5/97	Unknown	5.20	Unknown

Notes:

+ = Well ATD1A was replaced by Well ATD1B on October 2, 2000.

Elev. = Elevation

ft. = feet

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUNDWATER SAMPLES
ORGANIC ANALYSIS RESULTS

Well No.	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes
(Samples Collected on October 25 and 26, 2000)							
ATD1B	ND	NA	NA	ND	ND	ND	ND
ATD2A*	0.51	NA	NA	0.0024	ND	ND	ND
ATD3	ND	NA	NA	ND	ND	ND	ND
ATD4A*	2.9	NA	NA	0.0023	0.0014	ND	ND
ATD5*	0.7	NA	NA	ND	0.00051	0.015	0.023
ATD6#	NA	NA	NA	NA	NA	NA	NA
ATD7*	0.23	NA	NA	ND	ND	ND	ND
(Samples Collected on July 17, 18, and August 15, 2000)							
ATD1A**	0.12	NA	NA	ND	ND	ND	ND
ATD2A**	0.5	NA	NA	0.0018	ND	ND	0.0023
ATD3**	0.099	NA	NA	ND	ND	ND	ND
ATD4A	3	NA	NA	0.0032	0.0021	ND	0.003
ATD5	0.72	NA	NA	ND	0.00055	0.012	0.011
ATD6***	0.22	NA	NA	ND	ND	0.0019	0.00092
ATD7	0.26	NA	NA	ND	ND	ND	ND

Notes:

NA = Not Analyzed.

ND = Not Detected.

= Sample ATD6 was analyzed using the Fuel Fingerprint method; the laboratory analytical report describes the chromatogram for this sample as having two significant hydrocarbon patterns, one between C9 and C12 resembling Stoddard solvent, and one between C18 and C30, in the oil range.

* = Laboratory analytical report note: both diesel- and oil-range compounds are significant in the TPH-D result.

** = Laboratory analytical report note: oil-range compounds significant in TPH-D result.

*** = Laboratory analytical report note: gasoline-range compounds significant in TPH-D result.

Results are in ppm (mg/L), unless otherwise indicated.

TABLE 2
(Continued)
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUNDWATER SAMPLES
ORGANIC ANALYSIS RESULTS

Well No.	TPH-D	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes
(Samples Collected on August 26, 1998)							
ATD2	1.2	ND	NA	0.0021	ND	ND	ND
ATD3	ND	ND	NA	ND	ND	ND	ND
(Samples Collected on November 9, 1997)							
ATD5	0.22	NA	NA	NA	NA	NA	NA
ATD7	0.24	NA	NA	NA	NA	NA	NA
(Samples Collected on November 5, 1997)							
ATD5	0.23	ND	ND	ND	ND	ND	ND
ATD7	0.21	ND	ND	ND	ND	ND	ND

Notes:

NA = Not Analyzed.

ND = Not Detected.

* = Laboratory analytical report note: oil-range compounds significant in TPH-D result.

** = Laboratory analytical report note: gasoline-range compounds significant in TPH-D result.

*** = Laboratory analytical report note: both diesel- and oil-range compounds are significant in the TPH-D result.

Results are in ppm (mg/L), unless otherwise indicated.

TABLE 3
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUNDWATER SAMPLES
METALS RESULTS

Well No.	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
MCL	0.05	1.00	0.01	None	0.05	0.002	0.01	0.05
(Samples Collected on October 25 and 26, 2000)								
ATD1B	ND	0.078	ND	ND	ND	ND	ND	ND
ATD2A	0.0077	ND	ND	ND	ND	ND	ND	ND
ATD3	ND	0.14	ND	ND	ND	ND	ND	ND
ATD4A	0.23	0.12	ND	ND	0.12	ND	ND	ND
ATD5	0.022	ND	ND	ND	0.027	ND	ND	ND
ATD6	NA	NA	NA	NA	NA	NA	NA	NA
ATD7	ND	0.16	ND	ND	ND	ND	ND	ND
(Samples Collected on July 17, 18, and August 15, 2000)								
ATD1A	0.015	0.22	ND	ND	ND	ND	ND	ND
ATD2A	0.0087	ND	ND	ND	ND	ND	ND	ND
ATD3	ND	0.14	ND	ND	ND	ND	ND	ND
ATD4A	10	0.34	ND	0.031	0.72	0.006	ND	ND
ATD5	0.016	ND	ND	0.024	0.04	0.001	ND	ND
ATD6	0.0066	0.088	ND	ND	ND	ND	ND	ND
ATD7	ND	0.11	ND	0.17	ND	ND	ND	ND
(Samples Collected on August 26, 1998)								
ATD2	0.023	ND	ND	ND	ND	ND	ND	ND
ATD3	ND	ND	ND	ND	ND	ND	ND	ND
(Samples Collected on November 9, 1997)								
ATD5	NA	NA	NA	ND	NA	NA	NA	NA
ATD7	NA	NA	NA	NA	NA	NA	NA	NA
(Samples Collected on November 5, 1997)								
ATD5	0.026	0.11	ND	0.01	0.016	ND	ND	ND
ATD7	ND	0.095	ND	0.0055	ND	ND	ND	ND

Notes:

MCL = Maximum Concentration Limit.

NA = Not Analyzed.

ND = Not Detected.

Results are in ppm (mg/L), unless otherwise indicated.

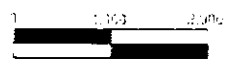


FIGURE 1
SITE LOCATION MAP
 Hardage Construction Corporation Site
 5800 Shellmound Street
 Emeryville, California



Source:
 U.S. Geological Survey
 Oakland West, California
 7.5 Minute Quadrangle
 Photorevised, 1980

RGA Environmental, Inc.
 4701 Doyle Street, Suite 14
 Emeryville, California 94608



SCALE IN FEET

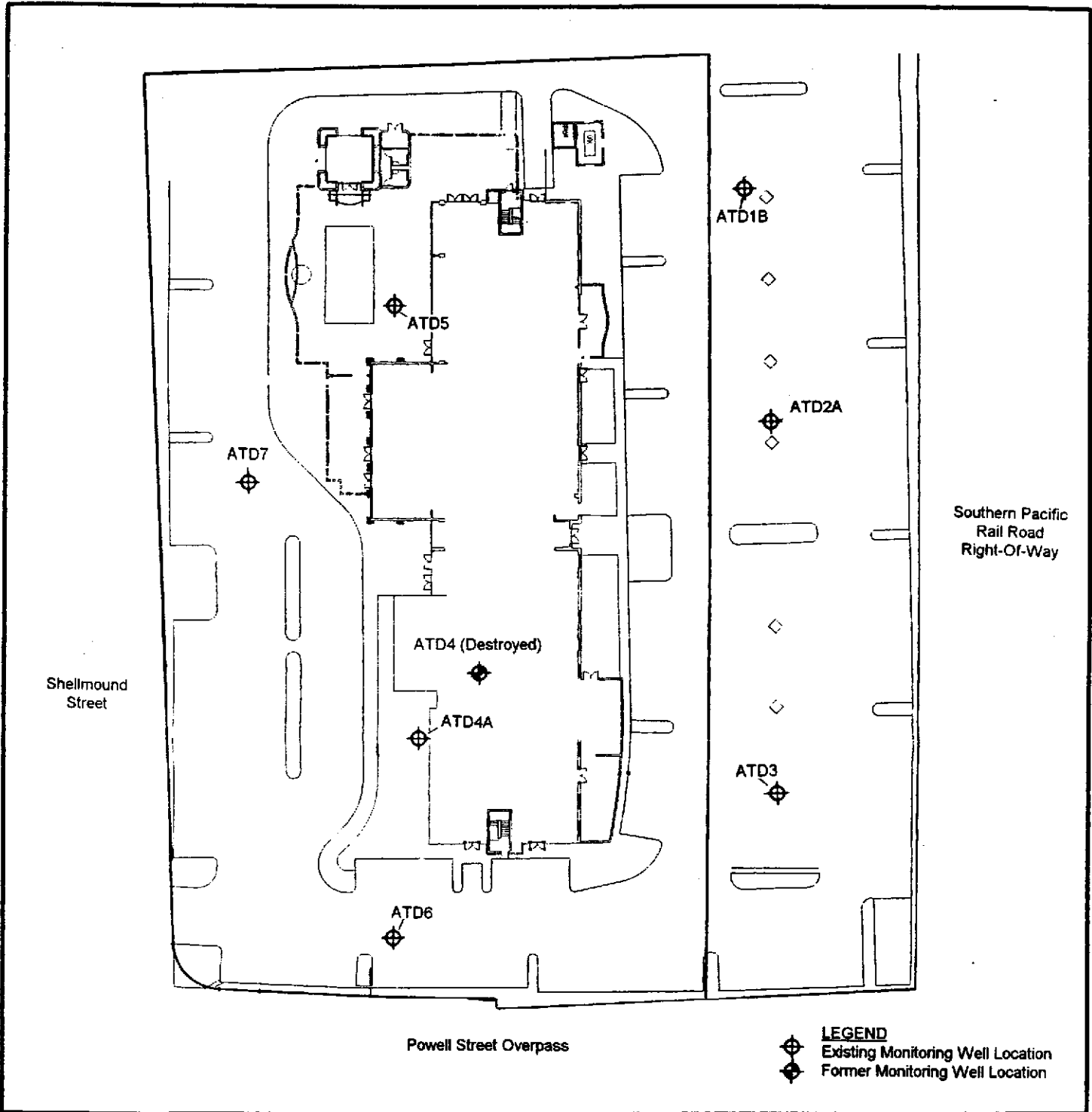


FIGURE 2
SITE PLAN
 Hardage Construction Corporation Site
 5800 Shellmound Street
 Emeryville, California

Source:
 Santina & Thompson, Inc.
 Woodfin Suite Hotel
 Monitoring Well Location and Elevation Map
 March, 1999

RGA Environmental, Inc.
 4701 Doyle Street, Suite 14
 Emeryville, California 94608



RGA ENVIRONMENTAL
GROUNDWATER MONITORING/WELL PURGING
DATA SHEET

Site Name HERSAGE CONSTRUCTION, Inc. Well No. ATD1B
 Job No. HSH14079 Date 10/25/00
 TOC to Water (ft.) 3.56 Sheen None
 Well Depth (ft.) 10.00 Free Product Thickness 0
 Well Diameter 2" Sample Collection Method TEFLON BAILER
 Gal./Casing Vol. 1.1, 2-5

TIME	GAL. PURGED	pH	TEMPERATURE	ELECTRICAL CONDUCTIVITY
1:19pm	<1	9.92	65.4	0.76
	1	7.90	68.3	0.85
	2	8.05	69.0	0.98
	3	8.21	69.9	1.00
	4	8.17	70.3	0.98
1:29pm	5	8.03	70.7	1.02
<u>Sample.</u>				

NOTES: G11(B) - Purge water is somewhat muddy & turbid.
No Petroleum Hydrocarbon above.

RGA ENVIRONMENTAL
GROUNDWATER MONITORING/WELL PURGING
DATA SHEET

Site Name Hesselt Construction, Inc.

Well No. ATDZA

Job No. HS110081

Date 10/25/00

TOC to Water (ft.) 3.95

Sheen NONE

Well Depth (ft.) 9.89

Free Product Thickness Ø

Well Diameter 4"

Sample Collection Method TEFLON BALLER

Gal./Casing Vol. 3.9, \approx 12.5

<u>TIME</u>	<u>GAL. PURGED</u>	<u>DH</u>	<u>TEMPERATURE</u>	<u>ELECTRICAL CONDUCTIVITY</u>
<u>7:17 AM</u>	<u>2.5</u>	<u>9.47</u>	<u>65.1</u>	<u>1.18</u>
	<u>4</u>	<u>9.66</u>	<u>65.5</u>	<u>0.94</u>
	<u>5</u>	<u>10.05</u>	<u>65.9</u>	<u>1.00</u>
	<u>7</u>	<u>10.72</u>	<u>66.0</u>	<u>1.09</u>
	<u>8 10</u>	<u>11.41</u>	<u>66.3</u>	<u>1.17</u>
	<u>11</u>	<u>11.52</u>	<u>66.3</u>	<u>1.22</u>
	<u>12</u>	<u>11.62</u>	<u>66.3</u>	<u>1.23</u>
	<u>13</u>	<u>11.66</u>	<u>66.3</u>	<u>1.26</u>
<u>7:22 AM</u>		<u>sample</u>		

NOTES: - GMB - Purge water is ~~at~~ brown + turbid, slightly foamy.
~~FA~~ Faint sulfuric odors.

RGA ENVIRONMENTAL
GROUNDWATER MONITORING/WELL PURGING
DATA SHEET

Site Name HARBAGE CONSTRUCTION, Inc

Well No. ATD4A

Job No. HSH 4589

Date 10/26/06

TOC to Water (ft.) 6.59

Sheen NONE

Well Depth (ft.) 11.15

Free Product Thickness ∅

Well Diameter 4"

Sample Collection Method TEFLON PALLET

Gal./Casing Vol. ~3, ~4

<u>TIME</u>	<u>GAL. PURGED</u>	<u>pH</u>	<u>TEMPERATURE</u>	<u>ELECTRICAL CONDUCTIVITY</u>
<u>2:44 pm</u>	<u>1</u>	<u>9.31</u>	<u>72.7</u>	<u>1.58</u>
<u></u>	<u>2</u>	<u>9.55</u>	<u>70.9</u>	<u>2.09</u>
<u></u>	<u>3</u>	<u>9.25</u>	<u>68.0</u>	<u>2.15</u>
<u>2:53 pm</u>	<u>→</u>	<u>WELL DE WATERED</u>	<u></u>	<u></u>
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NOTES: GAINS - PURGE WATER IS DIRTY + TURBID, ~~AND~~ SOMEWHAT
BACK IN CASE. NO PHC STRES.

RGA ENVIRONMENTAL
GROUNDWATER MONITORING/WELL PURGING
DATA SHEET

Site Name HARDY Construction, Inc.

Well No. ATD7

Job No. HSH14089

Date 10/26/00

TOC to Water (ft.) 4.85

Sheen NONE

Well Depth (ft.) 9.20

Free Product Thickness 0


Well Diameter 4"

Sample Collection Method REFLOW BAILEY

Gal./Casing Vol. 2.8, 2-9

<u>TIME</u>	<u>GAL. PURGED</u>	<u>pH</u>	<u>TEMPERATURE</u>	<u>ELECTRICAL CONDUCTIVITY</u>
<u>11 am</u>	<u>< 1</u>	<u>9.0</u>	<u>58.9</u>	<u>2.35</u>
	<u>2</u>	<u>9.0</u>	<u>63.7</u>	<u>2.47</u>
	<u>3</u>	<u>8.65</u>	<u>66.2</u>	<u>3.20</u>
	<u>4</u>	<u>8.25</u>	<u>67.5</u>	<u>2.48</u>
	<u>5</u>	<u>7.69</u>	<u>68.0</u>	<u>3.5</u>
	<u>6</u>	<u>7.42</u>	<u>67.2</u>	<u>4.57</u>
	<u>7</u>	<u>7.76</u>	<u>67.4</u>	<u>4.82</u>
	<u>8</u>	<u>8.59</u>	<u>70.4</u>	<u>3.91</u>
	<u>9</u>	<u>9.36</u>	<u>77.5</u>	<u>3.91</u>
	<u>SAMPLE</u>			

NOTES: GMB - No PNC case

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RGA Environmental 4701 Doyle Street, #14 Emeryville, CA 94608	Client Project ID: #HSHI 4089; Hardage Construction, Inc.	Date Sampled: 10/25-10/26/00 Date Received: 10/27/00
	Client Contact: Greg Brown	Date Extracted: 10/27/00
	Client P.O.:	Date Analyzed: 10/27-11/06/00

RCRA Metals*

EPA methods 6010/200.7; 7470/7470/245.1/245.5 (Hg); 7060/206.2 (As); 7740/270.2 (Se); 239.2 (Pb, water matrix)

Lab ID	51708	51709	51710	51711	Reporting Limit		
	Client ID	ATD 1B	ATD 2A	ATD 3	ATD 4A	S	W
Matrix	W	W	W	W	S	W	
Extraction ^o	Dissolved	Dissolved	Dissolved	Dissolved	TTLIC	Dissolved	
Compound	Concentration*				mg/kg	mg/L	mg/L
Arsenic (As)	ND	0.0077	ND	0.23	2.5	0.005	0.25
Barium (Ba)	0.078	ND	0.14	0.12	1.0	0.05	0.05
Cadmium (Cd)	ND	ND	ND	ND	0.5	0.005	0.01
Chromium (Cr)	ND	ND	ND	ND	0.5	0.02	0.05
Lead (Pb)	ND	ND	ND	0.12	3.0	0.005	0.2
Mercury (Hg)	ND	ND	ND	ND	0.06	0.0008	0.005
Selenium (Se)	ND	ND	ND	ND	2.5	0.005	0.25
Silver (Ag)	ND	ND	ND	ND	1.0	0.01	0.05
% Recovery Surrogate	NA	NA	NA	NA			
Comments							

* water samples are reported in mg/L, soil and sludge samples in mg/kg, wipes in ug/wipe and all TCLP / STLC / SPLP extracts in mg/L


ND means not detected above the reporting limit; N/A means surrogate not applicable to this analysis

^o EPA extraction methods 1311(TCLP), 3010/3020(water, TTLIC), 3040(organic matrices, TTLIC), 3050(solids, TTLIC); STLC -CA Title 22^{oo} DISTLC extractions are performed using STLC methodology except that deionized water is substituted for citric acid buffer as the extraction fluid. DISTLC results are not applicable to STLC regulatory limits.^o surrogate diluted out of range^o reporting limit raised due to matrix interference

i) liquid sample that contains greater than ~2 vol. % sediment; this sediment is extracted with the liquid, in accordance with EPA methodologies and can significantly effect reported metal concentrations.

DHS Certification No. 1644

 Edward Hamilton, Lab Director

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RGA Environmental 4701 Doyle Street, #14 Emeryville, CA 94608	Client Project ID: #HSHI 4089; Hardage Construction, Inc.	Date Sampled: 10/25-10/26/00
	Client Contact: Greg Brown	Date Received: 10/27/00
	Client P.O:	Date Extracted: 10/27/00
		Date Analyzed: 10/27-11/06/00

RCRA Metals*							
EPA methods 6010/200.7; 7470/7470/245.1/245.5 (Hg); 7060/206.2 (As); 7740/270.2 (Se); 239.2 (Pb, water matrix)							
Lab ID	51712	51714			Reporting Limit		
Client ID	ATD5	ATD 7					
Matrix	W	W			S	W	
Extraction ^o	Dissolved	Dissolved			TTLIC	Dissolved	
Compound	Concentration*			mg/kg	mg/L	mg/L	
Arsenic (As)	0.022	ND			2.5	0.005	0.25
Barium (Ba)	ND	0.16			1.0	0.05	0.05
Cadmium (Cd)	ND	ND			0.5	0.005	0.01
Chromium (Cr)	ND	ND			0.5	0.02	0.05
Lead (Pb)	0.027	ND			3.0	0.005	0.2
Mercury (Hg)	ND	ND			0.06	0.0008	0.005
Selenium (Se)	ND	ND			2.5	0.005	0.25
Silver (Ag)	ND	ND			1.0	0.01	0.05
% Recovery Surrogate	NA	NA					
Comments							

* water samples are reported in mg/L, soil and sludge samples in mg/kg, wipes in ug/wipe and all TCLP / STLC / SPLP extracts in mg/L
 ND means not detected above the reporting limit; N/A means surrogate not applicable to this analysis

^o EPA extraction methods 1311(TCLP), 3010/3020(water, TTLIC), 3040(organic matrices, TTLIC), 3050(solids, TTLIC); STLC -CA Title 22

^o DISTLC extractions are performed using STLC methodology except that deionized water is substituted for citric acid buffer as the extraction fluid. DISTLC results are not applicable to STLC regulatory limits.

^o surrogate diluted out of range

* reporting limit raised due to matrix interference

i) liquid sample that contains greater than ~2 vol. % sediment; this sediment is extracted with the liquid, in accordance with EPA methodologies and can significantly effect reported metal concentrations.

DHS Certification No. 1644

 Edward Hamilton, Lab Director



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QC REPORT

Date: 10/27/00-10/28/00 Matrix: Water

Extraction: N/A

Compound	Concentration: ug/L			%Recovery		RPD
	Sample	MS	MSD	MS	MSD	

SampleID: 102600

Instrument: GC-12

Surrogate1	0.000	100.0	94.0	100.00	100	94	6.2
Xylenes	0.000	319.0	319.0	300.00	106	106	0.0
Ethyl Benzene	0.000	108.0	106.0	100.00	108	106	1.9
Toluene	0.000	109.0	105.0	100.00	109	105	3.7
Benzene	0.000	111.0	105.0	100.00	111	105	5.6
MTBE	0.000	105.0	101.0	100.00	105	101	3.9
GAS	0.000	931.6	906.9	1000.00	93	91	2.7

SampleID: 42584

Instrument: GC-2 A

Surrogate1	0.000	98.0	102.0	100.00	98	102	4.0
TPH (diesel)	0.000	276.0	288.0	300.00	92	96	4.3

SampleID: 102600

Instrument: IR-1

Surrogate1	0.000	90.0	90.0	100.00	90	90	0.0
TRPH	0.000	25.3	25.2	23.70	107	106	0.4

$$\% \text{ Recovery} = \frac{(MS - \text{Sample})}{\text{Amount Spiked}} \cdot 100$$

$$RPD = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2 \cdot 100$$



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QC REPORT

CAM 17

Date: 11/05/00-11/06/00 Matrix: Water

Extraction: Dissolved

Compound	Concentration: mg/L			%Recovery		RPD
	Sample	MS	MSD	MS	MSD	

SampleID: 11600

Instrument ICP-1

Beryllium	0.000	5.5	5.5	5.00	109	110	0.4
Selenium	0.000	11.0	9.6	10.00	110	96	13.6
Molybdenum	0.000	4.8	5.5	5.00	96	110	13.0
Silver	0.000	0.4	0.5	0.50	82	90	9.7
Thallium	0.000	10.0	9.4	10.00	100	94	6.2
Barium	0.000	4.7	5.2	5.00	94	104	9.9
Nickel	0.000	5.3	5.6	5.00	106	112	6.1
Arsenic	0.000	12.0	11.0	10.00	120	110	8.7
Vanadium	0.000	4.9	5.3	5.00	97	107	9.3
Mercury	0.000	1.0	0.9	1.00	98	94	3.5
Zinc	0.000	4.6	5.5	5.00	92	110	17.7
Copper	0.000	4.5	5.3	5.00	91	106	15.2
Antimony	0.000	12.0	11.0	10.00	120	110	8.7
Lead	0.000	10.0	8.8	10.00	100	86	15.1
Cadmium	0.000	5.4	5.3	5.00	108	105	2.4
Cobalt	0.000	4.8	5.9	5.00	95	118	21.6
Chromium	0.000	4.9	5.6	5.00	97	113	14.5

$$\% \text{ Recovery} = \frac{(MS - \text{Sample})}{\text{Amount Spiked}} \cdot 100$$

$$RPD = \frac{(MS - MSD)}{(MS + MSD)} \cdot 100$$



ENVIRONMENTAL INC.

658-4363

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658-9974 FAX: (510) 868-9974

TEL: (510) 868-9974
EMERYVILLE, CA 94608

22731 ZRGA66

CHAIN OF CUSTODY

Project Number: **HSHI 4089** Project Name: **HARDAGE CONSTRUCTION, INC.**

Sampled By: (Printed and Signature): **Greg Brown** *Greg Brown*

No. of Containers:	Analysis(es):	TPH-D	BTEX	PCRA & METALS	FUEL FINGERPRINT	Preservatives

Sample Number	Date	Time	Type	Sample Location	No. of Containers	Analysis(es)	TPH-D	BTEX	PCRA & METALS	FUEL FINGERPRINT	Preservatives	Remarks
												51708
+ ATD1B	10/25/00		WATER	MONITORING WELL ATD1B	5		X	X	X			ICE NORMAL THRU P. ROW. N.
+ ATD2A	"			" ATD2A	5		X	X	X			
+ ATD3	10/26/00			" ATD3	5		X	X	X			51709
+2 ATD4A	"			" ATD4A	5		X	X	X			51710
+ ATD5	10/25/00			" ATD5	5		X	X	X			
+ ATD6	10/26/00			" ATD6	3				X			51711
+ ATD7	"			" ATD7	3		X	X	X			51712
												51713
												51714

Relinquished By: (Signature): <i>Greg Brown</i>	Date: 10/27/00	Time: 10:15	Relinquished By: (Signature): <i>Greg Brown</i>	Total No. of Samples: 7	Total No. of Containers: 33	Laboratory: McCampbell Analytical
Relinquished By: (Signature): <i>Greg Brown</i>	Date: 10/27	Time: 1710	Relinquished By: (Signature): <i>Ed Hamilton</i>	Laboratory Contact: ED HAMILTON	Laboratory Phone Number: 925/798-1620	
Relinquished By: (Signature):	Date:	Time:	Received For Laboratory By: (Signature):	Sample Analysis Request Sheet Attached () Yes <input checked="" type="checkbox"/> No		

Comments: ① PLEASE FILTER + PRESERVE METAL SAMPLES IN THE LAB.
 ② PLEASE BE SURE TO ANALYZE THE SEPARATE PHASE LIQUID ON ATD6 - THE FUEL FINGERPRINT

PRESERVATION
 ANALYSIS
 CONTAINERS
 FILTERS
 PRESERVE & FILTER ON LAB WORK REGION

Sent By: McCampbell Analytical; 925 798 4612; Nov-16-00 4:15PM; Page 2