

C A M B R I A

do ~~no~~ one more QMR & can review
for closure

Do SCM to ID potential receptors?

July 17, 2000

Well survey was previously done
by GeoMatrix

Ms. Eva Chu
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, California 94502



Re: **LETTER OF TRANSMITTAL**
Second Quarter 2000 Groundwater Monitoring Report
Clark's Home and Garden
23040 Clawiter Road
Hayward, California

Dear Ms. Chu:

Cambria Environmental Technology, Inc. has enclosed the *Second Quarter 2000 Groundwater Monitoring Report* for the above-referenced site.

If you have any questions, please do not hesitate to call me at (510) 420-3340.

Sincerely,
Cambria Environmental Technology, Inc.


John A. Riggin
Project Geologist

Enclosure

00 JUL 19 PM 3:54
CAMBRIA ENVIRONMENTAL
TECHNOLOGY

cc: Mr. Ken Clark, 23040 Clawiter Road, Hayward, California 95118-3686
Mr. and Mrs. Bob and Shirley Price, 537 Hidden Valley Road, Grants Pass, Oregon 97527

Oakland, CA
San Ramon, CA
Sonoma, CA
Portland, OR

\\SERVER\MR\Clarks H&G\QM\QMR\Transmittal Letter.doc

**Cambria
Environmental
Technology, Inc.**

1144 65th Street
Suite B
Oakland, CA 94608
Tel (510) 420-0700
Fax (510) 420-9170

July 13, 2000

Mr. Kenneth D. Clark
Clark's Home and Garden
23040 Clawiter Road
Hayward, California 95118-3686

Re: **Second Quarter 2000 Groundwater Monitoring Report**
Clark's Home and Garden
23040 Clawiter Road
Hayward, California
Cambria Project # 189-1517



Dear Mr. Clark:

As required by the Alameda County Health Care Services Agency (ACHCSA), Cambria Environmental Technology, Inc. (Cambria) has prepared this quarterly monitoring report for the above-referenced site (Figure 1). The second quarter 2000 activities and results, bioparameter sampling analyses results, hydrocarbon distribution in groundwater, and the anticipated third quarter 2000 activities are presented below.

SECOND QUARTER 2000 ACTIVITIES and RESULTS

Monitoring Activities

Field Activities: On April 27, 2000, Cambria gauged and collected groundwater samples from wells MW-1, MW-2, and MW-3 (Figure 2). Cambria recorded dissolved oxygen (DO) and ferrous iron concentrations, and measured oxidation-reduction potential (ORP) during field activities. Field data sheets are presented as Attachment A.

Sample Analyses: Groundwater samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg) and total petroleum hydrocarbons as diesel (TPHd) by modified EPA Method 8015, and benzene, toluene, ethylbenzene, xylenes (BTEX) and methyl tert-butyl ether (MTBE) by EPA Method 8020. Samples were also analyzed for the bioparameters nitrate, sulfate and alkalinity. Any samples containing MTBE were further analyzed by EPA Method 8260. The groundwater analytical results are summarized in Table 1. The analytical report is included as Attachment B.

Oakland, CA
San Ramon, CA
Sonoma, CA
Portland, OR

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Monitoring Results

Groundwater Flow Direction: Based on depth-to-water measurements collected during Cambria's April 27, 2000 site visit, groundwater beneath the site flows to the west with a gradient of 0.005 ft/ft (Figure 2). Depth-to-water and groundwater elevation data are presented in Table 1.

BIOPARAMETER ANALYSES RESULTS

To assess the present level of intrinsic bioremediation, Cambria analyzed samples collected from all site wells for ORP, nitrate, sulfate, ferrous iron, alkalinity, and DO. Comparison of TPHg concentrations with the above bioparameters indicate that anaerobic biodegradation of hydrocarbons is occurring at the site. The analytic results and the relative TPHg concentrations are presented below:



Table A - Bioparameter Concentrations in Ground Water							
	ORP	Nitrate	Sulfate	Ferrous Iron	Alkalinity	DO	TPHg
MW-1	114 mV	7.0 mg/l	36 mg/l	< 0.2 mg/l	550 mg/l	0.77 mg/l	960 µg/l
MW-2	106 mV	15 mg/l	32 mg/l	< 0.2 mg/l	410 mg/l	1.29 mg/l	730 µg/l
MW-3	116 mV	75 mg/l	70 mg/l	< 0.2 mg/l	430 mg/l	1.35 mg/l	<50 µg/l

Bioparameter data indicates that both aerobic and anaerobic biodegradation are occurring when concentrations from source area well MW-1 are compared to down-gradient well MW-3.

Aerobic Biodegradation: During this quarter, DO concentrations from source area well MW-1, when compared to down-gradient well MW-3, decrease as hydrocarbon concentrations increase. DO has been depleted in the source area to below 1 mg/l, and nitrate and sulfate have likely been supplemented as electron acceptors. Alkalinity concentrations also indicate that aerobic biodegradation is occurring. The down-gradient alkalinity concentrations in MW-3 are lower than alkalinity concentrations reported in source area well MW-1.

Anaerobic Biodegradation: Nitrate and sulfate concentrations measured in source area well MW-1 demonstrate an inverse relationship with hydrocarbon concentrations when compared to nitrate and sulfate concentrations in down-gradient well MW-3. These results are consistent with the nitrate and sulfate results from the first quarter sampling event, indicating that anaerobic biodegradation is occurring beneath the site. The ORP measurements measured this quarter in wells MW-1, MW-2, and MW-3 are positive and inconsistent with the negative first quarter ORP measurements. Therefore, ORP results do not indicate that anaerobic biodegradation is occurring. However, the comparison of the results in the source area to the down-gradient well vary inversely, and indicate

that biodegradation is occurring. The relationships between the bioparameter results and the hydrocarbon results observed in site monitoring wells are presented in Table B. Historical bioparameter concentrations in groundwater are included in Table 2.



Table B - Bioparameter Analysis			
Bio-parameter	Description of chemical processes and implications of relationship between hydrocarbon and bioparameter concentrations.	Relationship indicating active biodegradation	Observed Relationship
ORP	The oxidation-reduction potential (ORP) of groundwater is a measure of electron activity and is an indicator of the relative tendency of a solute species to gain or lose electrons. The ORP of groundwater generally ranges from -400 millivolts (mV) to +800 mV. Under oxidizing conditions the ORP of groundwater is positive, while under reducing conditions the ORP is usually negative. Reducing conditions (negative ORP) suggests that anaerobic biodegradation is occurring. Generally, the ORP of groundwater inside a hydrocarbon plume should be somewhat less than that measured outside the plume.	inverse	inverse
Nitrate	After DO has been depleted in the groundwater, nitrate may be used as an electron acceptor for anaerobic biodegradation. In this denitrification process, nitrate is reduced to nitrite. Reduced nitrate concentrations in the source area compared to the clean area suggests that anaerobic biodegradation is occurring.	inverse	inverse
Sulfate	After DO and nitrate have been depleted in the groundwater, sulfate may be used as an electron acceptor for anaerobic biodegradation. If sulfate concentrations vary inversely with hydrocarbon concentrations, anaerobic biodegradation of fuel hydrocarbons is probably occurring.	inverse	inverse
Ferrous Iron	In some cases ferric iron acts as an electron acceptor during anaerobic biodegradation of petroleum hydrocarbons. In this process, ferric iron is reduced to ferrous iron, which may be soluble in water. Therefore, if the ferrous iron concentrations vary directly with hydrocarbon concentration, anaerobic biodegradation may be occurring.	direct	inconclusive
Alkalinity	The total alkalinity of groundwater indicates the groundwater's ability to neutralize acid. High alkalinity (high pH) conditions occur when groundwater contains elevated hydroxides, carbonates, and bicarbonates of elements such as calcium, magnesium, sodium, potassium, or ammonia. Since these chemical species are created by the respiration of microorganisms, high alkalinity is an indicator of biological activity. However, these chemical species may also result from the dissolution of rock (especially carbonates) and the transfer of carbon dioxide from the atmosphere. Alkalinity also buffers groundwater pH against acid generation by both aerobic and anaerobic biodegradation processes. Higher alkalinity in the source area as compared to clean areas suggests that aerobic biodegradation is occurring.	direct	direct

Dissolved Oxygen	During aerobic biodegradation, DO levels are reduced as aerobic respiration occurs. DO is the most thermodynamically favored electron acceptor used in aerobic biodegradation of petroleum hydrocarbons. Active aerobic biodegradation of BTEX compounds requires at least 1 ppm DO in groundwater and DO concentrations can be as high as 8 to 13 mg/L in oxygen-saturated groundwater that is free of hydrocarbons. Observed inverse relationships between DO and hydrocarbon concentrations indicate the occurrence of aerobic degradation, provided that at least 1 to 2 mg/L of DO is present in groundwater.	inverse	inverse
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Hydrocarbon Distribution in Groundwater

Hydrocarbon concentrations decreased significantly since the first quarter sampling event in wells MW-1 and MW-2. The only benzene concentration reported was 3.5 µg/l detected in groundwater samples collected from the source area well MW-1. The maximum TPHg and TPHd concentrations detected were 960 µg/l and 1,400 µg/l in monitoring wells MW-1 and MW-2, respectively. No petroleum hydrocarbon constituents were reported above laboratory detection limits in groundwater samples collected from down-gradient well MW-3. The hydrocarbon plume appears to be stable with evidence that natural hydrocarbon biodegradation is occurring.

ANTICIPATED THIRD QUARTER 2000 ACTIVITIES

Monitoring Activities


Quarterly Ground Water Sampling: Cambria will continue to gauge, measure dissolved oxygen, ORP and ferrous iron concentrations, and collect groundwater samples from all site wells. Cambria will submit the samples to an analytical laboratory for TPHg, TPHd, BTEX, MTBE, and bioparameters analyses. Cambria will also tabulate the data and prepare a quarterly monitoring report.

Purged Groundwater Disposal: Any purge water generated during sampling events will be disposed of by an approved facility during the third quarter 2000.

CLOSING

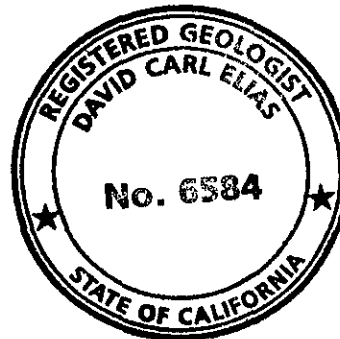
We appreciate the opportunity to provide environmental services on behalf of Mr. Ken Clark. If you have any questions or comments, please call John Riggi at (510) 420-3340.

Sincerely,
Cambria Environmental Technology, Inc.



John A. Riggi
John A. Riggi
Project Geologist

Dave C. Elias
Dave C. Elias, RG
Senior Geologist



cc: Ms. Eva Chu, Alameda County Department of Environmental Health
1131 Harbor Bay Parkway, 2nd Floor, Alameda, California 94502

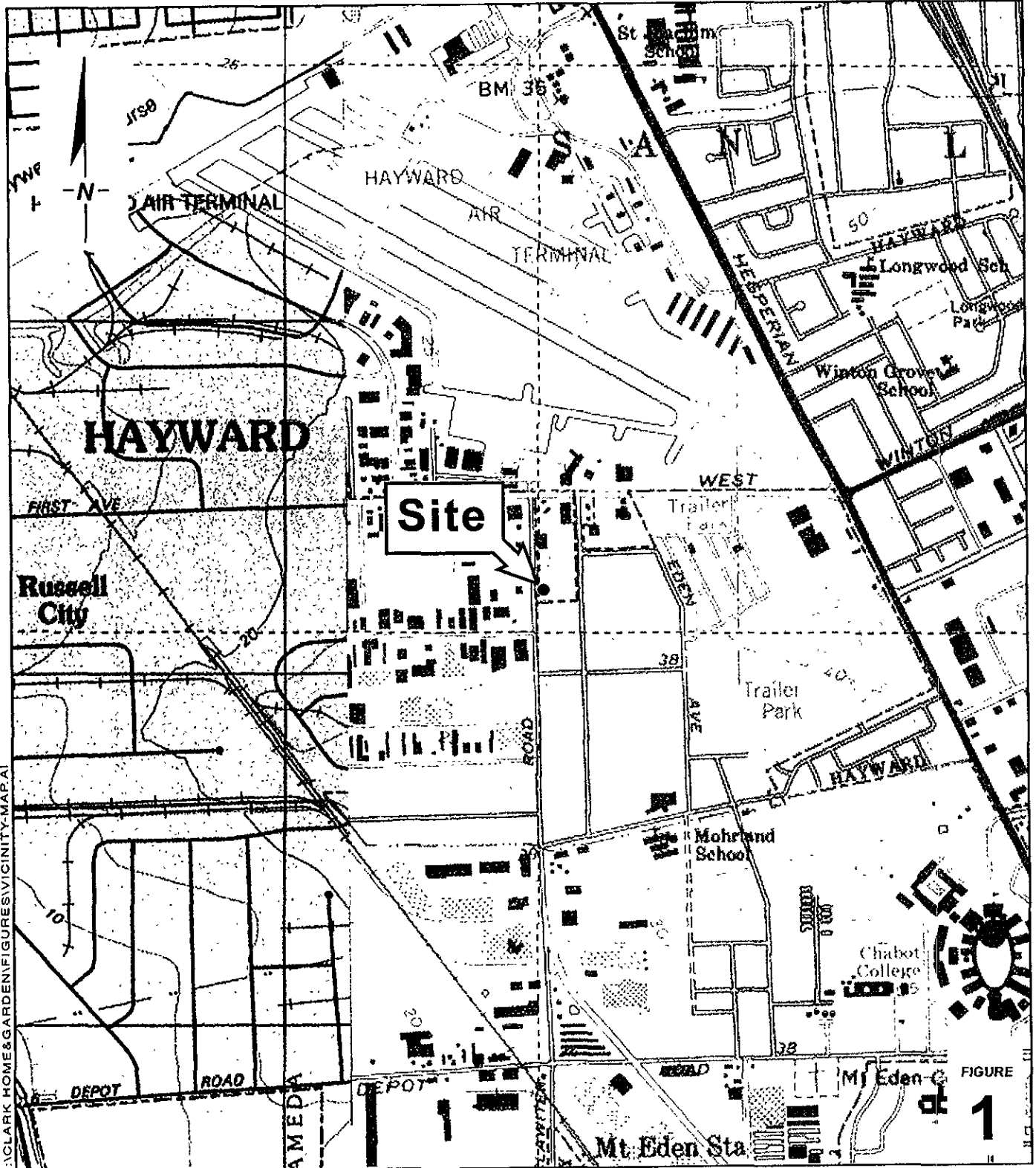
Mr. and Mrs. Bob and Shirley Price, 537 Hidden Valley Road, Grants
Pass, Oregon 97527

ATTACHMENTS

- Figure 1 - Vicinity Map
- Figure 2 - Groundwater Contour Map

- Table 1 - Groundwater Elevation and Analytical Data

- Attachment A - Field Data Sheets
- Attachment B - Laboratory Analytical Report



CLARK HOME & GARDEN VICINITY MAP A

Clark's Home and Garden

23040 Clawiter Road

Hayward, California



C A M B R I A

Vicinity Map

EXPLANATION

- Monitoring Well Location
- ▲ Soil Sample Location (Kaprealian Engineering, Inc.)
- Grab Groundwater sample collected 11/22/95
- ▣ Grab Groundwater Sample collected 02/19/97

Well ID	ELEV	Well Designation and Elevatoin
22.00		Groundwater Elevation Contour
	0.005	Groundwater Flow Direction and Gradient

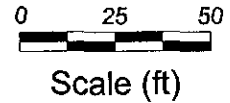
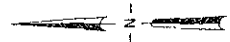
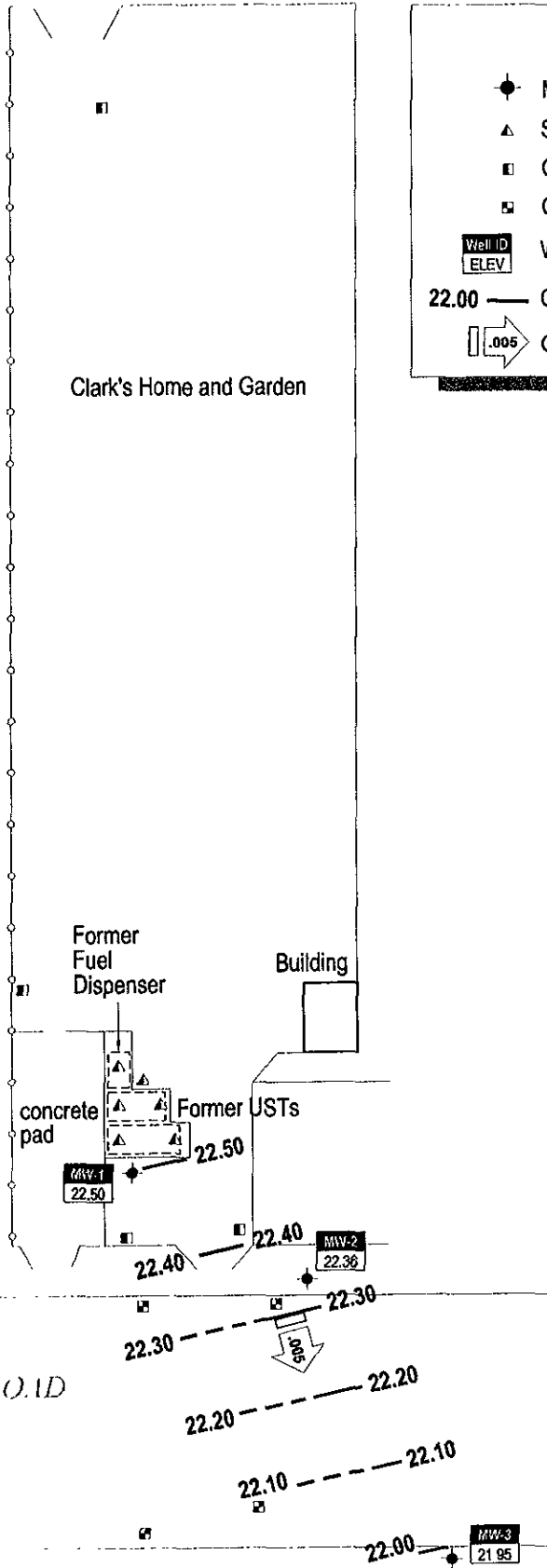


FIGURE
2

M:\CLARKS_H&G\FIGURES\2000GW.DWG

Clark's Home and Garden
23040 Clawter Road
Hayward, California



C A M B R I A

Groundwater Contour Map

April 27, 2000

CAMBRIA

Table 1. Groundwater Analytical Data - Clark's Home and Garden, 23040 Clawiter Road, Hayward, California

Well ID TOC (ft)	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft*)	TPHg	TPHd	←----- (µg/L) -----→				
						Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
MW-1 35.30	8/7/91	--	--	5,900	7,100	45	<25	130	520	--
	9/5/91	--	--	47,000	2,800	<50	<50	230	660	--
	10/15/91	--	--	24,000	13,000	<50	<50	<50	390	--
	1/7/92	--	--	23,000	9,000	<50	<50	270	800	--
	4/8/92	--	--	8,100	3,500	19	<5	350	210	--
	7/7/92	--	--	7,000	6,300	<5	<5	190	170	--
	11/23/93	--	--	2,400	1,600	1.5	3.7	41	24	--
	1/31/94	--	--	3,900	1,900	1.9	4.2	56	49	--
	4/11/94	--	--	2,200	3,000	1.2	4.6	11	11	--
	7/27/94	--	--	6,200	4,400	<1	<1	50	74	--
	10/31/94	--	--	1,700	1,800	2.1	4.9	20	42	--
	10/9/95	--	--	870	1,300	<0.5	<0.5	12	10.4	--
	1/17/96	--	--	1,800	1,800	10	<5	16	19.8	--
	4/25/96	--	--	1,700	1,500	11	5.7	26	25	--
	2/19/97	--	--	2,800	430	9	6	33	50	--
	10/15/99	14.45	20.85	1,000 ^a	1,400	3.3	5	4.6	6.7	<5.0
	1/25/00	14.21	21.09	2,200 ^{a,b}	1,400 ^{b,d,g}	3.3	1.7	4.6	7.4	<5.0
4/27/00	12.80	22.50	960 ^a	820 ^{d,e}	3.5	3.2	7.7	25	<5.0	
MW-2 34.62	10/15/99	13.86	20.76	4300 ^{g,j}	3,100	<1	6.7	11	11	<5.0
	1/25/00	13.61	21.01	2,300 ^{b,g,h}	2,900 ^{b,d,g}	<0.5	2.3	2.2	2	<5.0
	4/27/00	12.26	22.36	730 ^{b,j}	1,400 ^{b,f}	<0.5	0.86	0.71	0.77	<5.0
MW-3 35.30	10/15/99	14.88	20.42	<50	99	<0.5	<0.5	<0.5	<0.5	<5.0
	1/25/00	14.67	20.63	<50	98 ^g	<0.5	<0.5	<0.5	<0.5	<5.0
	4/27/00	13.35	21.95	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
TB	10/15/99	--	--	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0

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Table 1. Groundwater Analytical Data - Clark's Home and Garden, 23040 Clawiter Road, Hayward, California

Well ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft*)	TPHg	TPHd	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
				←-----(µg/L)-----→						

Abbreviations and Methods:

TPHg = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015
 Benzene, toluene, ethylbenzene, and xylenes by EPA Method 8020
 MTBE = Methyl tert-butyl ether by EPA Method 8020
 µg/L = micrograms per liter
 TOC = top of casing elevation
 TB = trip blank
 -- = not available, not analyzed, or does not apply

Notes:

Sampling prior to 1999 reported by Geomatrix.
 a - unmodified or weakly modified gasoline is significant
 b - lighter than water immiscible sheen is present
 c - heavier gasoline range compounds are significant (aged gasoline?)
 d - gasoline range compounds are significant
 e - diesel range compounds are significant; no recognizable pattern
 f - aged diesel? is significant
 g - strongly aged gasoline or diesel range compounds are significant
 j - no recognizable pattern

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Table 2. Bioparameter Concentrations in Groundwater - Clark's Home and Garden, 23040 Clawiter Road, Hayward, California

Well ID	Date	ORP mV	Nitrate	Sulfate	Ferrous Iron mg/l	Alkalinity	DO	TPHg µg/l
MW-1	1/25/00	-108	3	20	0.8	720	2.31	2,200
	4/27/00	114	7	36	<0.2	550	0.77	960
MW-2	1/25/00	-130	20	42	0.3	520	0.31	2,300
	4/27/00	106	15	32	<0.2	410.0	1.29	730
MW-3	1/25/00	-37	69	66	0.02	470	0.46	<50
	4/27/00	116	75	70	<0.2	430	1.35	<50

Abbreviations:

ORP = Oxidation-Reduction Potential

mV = millivolts

mg/L = milligrams per liter

µg/L = micrograms per liter

DO = Dissolved Oxygen

TPHg = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015

ATTACHMENT A

Field Data Sheets

WELL SAMPLING FORM

Project Name: Clark's Home & Garden	Cambria Mgr: DCE	Well ID: MW- 1
Project Number: 189-1517-009	Date: 4/27/00	Well Yield: -----
Site Address: 23040 Clawiter Road Hayward, CA.	Sampling Method:	Well Diameter: 2" pvc
	Disposable bailer	Technician(s): ME
Initial Depth to Water: 12.80'	Total Well Depth: 23.48'	Water Column Height: 10.68'
Volume/ft: 0.16	1 Casing Volume: 1.71 gal	3 Casing Volumes: 5.12 gal
Purging Device: disposable bailer	Did Well Dewater?: no	Total Gallons Purged: 5.3 gal
Start Purge Time: 11:21 AM	Stop Purge Time: 11:32	Total Time: 11 min.

1 Casing Volume = Water column height x Volume/ft.
 post D.O. = 0.77 mg/l
 iron = 2.0 mg/l
 ferrous - 0.2
 POST ORP = 114 mV

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Time	Casing Volume	Temp. C	pH	Cond. uS	Comments
11:24	1	19.0°	7.2	732	ODOROUS.
11:27	2	18.0°	7.3	765	
11:31	3	17.8°	7.2	737	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW- 1	4/27/00	12:35	4 vov's	HCL	TPHg, BTEX, MTBE* * MTBE (Confirm hits)	8020 8015 8260
MW- 1	4/27/00	12:35	1L plastic	None	Nitrate, Sulfate, Alk.	
MW- 1	4/27/00	12:35	1L plastic	None	TPHd	8015

WELL SAMPLING FORM

Project Name: Clark's Home & Garden	Cambria Mgr: DCE	Well ID: MW- 2
Project Number: 189-1517-009	Date: 4/27/00	Well Yield: -----
Site Address: 23040 Clawiter Road Hayward, CA.	Sampling Method:	Well Diameter: 2 " pvc
	Disposable bailer	Technician(s): ME
Initial Depth to Water: 12.26'	Total Well Depth: 25.12'	Water Column Height: 12.86'
Volume/ft: .16 gal/ft	1 Casing Volume: 2.06 gal	3 Casing Volumes: 6.2 gal
Purging Device: disposable bailer	Did Well Dewater?: NO.	Total Gallons Purged: 6.59 gal
Start Purge Time: 11:46	Stop Purge Time: 12:01	Total Time: 15 min

$1 \text{ Casing Volume} = \text{Water column height} \times \text{Volume/ft.}$
 post. D.O. = 1.29 mg/l @ 17.5°C
 Ferrus iron = 0.0 mg/l
 0.2 mg/l
 Well Diam. Volume/ft (gallons)
 2" 0.16
 4" 0.65
 6" 1.47
 post ORP = 106 mV

Time	Casing Volume	Temp. C	pH	Cond. uS	Comments
11:50	1	17.8	7.8	701	
11:54	2	17.9	7.6	693	GREYISH-PURGE
12:01	3	17.6	7.5	688	WATER
					-water in well
					casing upon
					arrival -
					removed

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW- 2	4/27/00	12:50	4 voa's	HCL	TPHg, BTEX, MTBE* * MTBE (Confirm hits)	8020 8015 8260
MW- 2	4/27/00	12:50	1L plastic	None	Nitrate, Sulfate, Alk.	
MW- 2	4/27/00	12:50	1L plastic	None	TPHd	8015

WELL SAMPLING FORM

Project Name: Clark's Home & Garden	Cambria Mgr: DCE	Well ID: MW- 3
Project Number: 189-1517-009	Date: 4/27/00	Well Yield: -----
Site Address: 23040 Clawiter Road Hayward, CA.	Sampling Method:	Well Diameter: 2 " pvc
	Disposable bailer	Technician(s): ME
Initial Depth to Water: 13.35'	Total Well Depth: 29.25'	Water Column Height: 15.90'
Volume/ft: .16 gal/ft	1 Casing Volume: 2.55 gal	3 Casing Volumes: 7.63 gal
Purging Device: disposable bailer	Did Well Dewater?: NO	Total Gallons Purged: 8 gal
Start Purge Time: 12:06 PM	Stop Purge Time: 12:19	Total Time: 13 min.

post D.O. = 1.35 mg/l
 1 Casing Volume = Water column height x Volume/ft. @ 18.5°C

ferrous iron = 0.0 mg/l - 0.2 mg/l

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47


post ORP = 116 mV

Time	Casing Volume	Temp. C	pH	Cond. uS	Comments
12:09	1	18.1	7.6	760	
12:15	2	18.2	7.8	549	silty purge water
12:18	3	18.3	7.6	760	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW- 3	4/27/00	1:05	4 voa's	HCL	TPHg, BTEX, MTBE* * MTBE (Confirm hits)	8020 8015 8260
MW- 3	4/27/00	1:05	1L plastic	None	Nitrate, Sulfate, Alk.	
MW- 3	4/27/00	1:05	1L plastic	None	TPHd	8015

ATTACHMENT B

Analytical Laboratory Report

 McCAMPBELL ANALYTICAL INC.	110 2nd Avenue South, #D7, Pacheco, CA 94553-5560 Telephone : 925-798-1620 Fax : 925-798-1622 http://www.mccampbell.com E-mail: main@mccampbell.com

Cambria Environmental Technology 1144 65 th Street, Suite C Oakland, CA 94608	Client Project ID: #189-1517; Clark's H&G	Date Sampled: 04/27/00
	Client Contact: Mark Erickson	Date Received: 04/28/00
	Client P.O:	Date Analyzed: 04/28/00
		Date Extracted: 04/28/00

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & BTEX*
 EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCF11X(5030)

Lab ID	Client ID	Matrix	TPH(g) [†]	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	% Recovery Surrogate
36612	MW-1	W	960,a	ND	3.5	3.2	7.7	25	---
36613	MW-2	W	730,j,h	ND	ND	0.86	0.71	0.77	---
36614	MW-3	W	ND	ND	ND	ND	ND	ND	93
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit	W		50 ug/L	5.0	0.5	0.5	0.5	0.5	
	S		1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

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

* cluttered chromatogram; sample peak coelutes with surrogate peak

*The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) no recognizable pattern.

GeoAnalytical Laboratories, Inc.

1405 Kansas Avenue Modesto, CA 95351 Phone (209) 572-0900 Fax (209) 572-0916

CERTIFICATE OF ANALYSIS

Report # L120-01

Date: 5/08/00

McCampbell Analytical
110 2nd Avenue South
Pacheco CA 94553

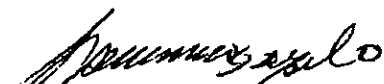
Project: 19997

PO#

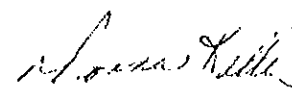
Date Rec'd: 4/29/00
Date Started: 4/29/00
Date Completed: 5/06/00

Date Sampled: 4/27/00
Time:
Sampler:

Sample ID	Lab ID	RL	Method	Analyte	Results	Units
MW-1	L33871	1.0	300.0	Nitrate (NO3)	7.0	mg/L
		1.0	300.0	Sulfate	36	mg/L
		10	2320B	Alkalinity	550	mg/L
MW-2	L33872	1.0	300.0	Nitrate (NO3)	15	mg/L
		1.0	300.0	Sulfate	32	mg/L
		10	2320B	Alkalinity	410	mg/L
MW-3	L33873	1.0	300.0	Nitrate (NO3)	75	mg/L
		1.0	300.0	Sulfate	70	mg/L
		10	2320B	Alkalinity	430	mg/L


Ramiro Salgado
Chemist

Certification # 1157


Donna Keller
Laboratory Director

GeoAnalytical Laboratories, Inc.

1405 Kansas Avenue Modesto, CA 95351 Phone (209) 572-0900 Fax (209) 572-0916

Report# L120-01


QC REPORT

McCampbell Analytical
110 2nd Avenue South
Pacheco

CA 94553

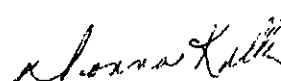
Dates Analyzed 4/29/00-5/6/00

Analyte	Batch #	Method	MS % Recovery	MSD % Recovery	RPD	Blank
Nitrate (NO3)	103247	300.0	102.0	112.0	9.3	ND
Sulfate	103248	300.0	116.0	116.0	0.0	ND
Alkalinity	103317	2320B	85.0	90.0	5.7	ND



Ramiro Salgado
Chemist

Certification # 1157



Donna Keller
Laboratory Director