ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

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

RO0000045

October 18, 2001

Mr. Louis Voss
Clark's Home & Garden
23040 Clawiter Road
Hayward, CA 94545

Mr. Robert Price
537 Hidden Valley Road
Grants Pass, OR 97527

Re: Fuel Leak Site Case Closure for 23040 Clawiter Road, Hayward, CA

Dear Messrs. Voss and Price:

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 Protection Division 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.

SITE INVESTIGATION AND CLEANUP SUMMARY

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

- up to 670ppm TPH as gasoline, 1,100ppm TPHas diesel, and 1.1ppm benzene exists in soil beneath the site at 10 feet bgs;
- up to 1,700ppb TPHg, 950ppb TPHd, and 4pbb benzene exists in groundwater beneath the site; and,
- a site safety plan must be prepared in the event excavation/trenching is proposed in the vicinity of residual soil and groundwater contamination.

If you have any questions, please contact me at (510) 567-6762.

eva chu
Hazardous Materials Specialist

enlosures: 1. Case Closure Letter 2. Case Closure Summary

c: James Sorensen, Alameda County Planning Dept (QIC 50506)
files-ec (clarks-7)

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REMEDIAL ACTION COMPLETION CERTIFICATION

RO-045 - 23040 Clawiter Rd, Hayward, CA
(1-3K gallon gasoline and 1-1K gallon diesel tanks removed in March 1993)

October 18, 2001

Mr. Louis Voss
Clark's Home & Garden
23040 Clawiter Road
Hayward, CA 94545

Mr. Robert Price
537 Hidden Valley Road
Grants Pass, OR 97527

Dear Messrs. Voss and Price:

This letter confirms the completion of site investigation and corrective 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 tanks 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 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.

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,

Mee Ling Tung, Director

cc: Chuck Headlee, RWQCB
Dave Deaner, SWRCB
William McCammon, Alameda County Fire Department (QIC 41401)
files-ec (clarks-6)

CASE CLOSURE SUMMARY
Leaking Underground Fuel Storage Tank Program

I. AGENCY INFORMATION

Date: December 26, 2000

Agency name: **Alameda County-HazMat**
Address: **1131 Harbor Bay Pkwy**
City/State/Zip: **Alameda, CA 94502**
Phone: **(510) 567-6700**
Responsible staff person: **Eva Chu**
Title: **Hazardous Materials Spec.**

II. CASE INFORMATION

Site facility name: **Clark's Home and Garden**
Site facility address: **23040 Clawiter, Hayward, CA 94545**
RB LUSTIS Case No: **N/A**
Local Case No./LOP Case No.: **3736**
URF filing date: **4/14/89**
SWEEPS No: **N/A**

Responsible Parties:	Addresses:	Phone Numbers:
Louis (Butch) Voss **Clark's Home and Garden** **23040 Clawiter Road** **Hayward, CA 94545** **(510) 783-6366**	**Bob and Shirley Price** 537 ~~536~~ **Hidden Valley Road** **Grants Pass, OR 97527** **(800) 875-8961**	

Tank No:	Size in gal.:	Contents:	Closed in-place or removed?:	Date:
1	3000	Gasoline	Removed	11/4/88
2	1000	Diesel	"	"

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and type of release: **Holes in UST resulting is diesel and gasoline contamination**
Site characterization complete? **YES**
Date approved by oversight agency: **10/24/2000**
Monitoring Wells installed? **Yes** Number: **3**
Proper screened interval? **Yes, 8 to 25 feet bgs in well MW-1**
Highest GW depth below ground surface: **12.80'** Lowest depth: **14.45' bgs in well MW-1**
Flow direction: **SW at approximately .002 to .01 ft/ft**
Most sensitive current use:
Are drinking water wells affected? Aquifer name:
Is surface water affected? **No** Nearest affected SW name: **NA**
Off-site beneficial use impacts (addresses/locations): **NA**
Report(s) on file? **YES** Where is report(s) filed? **Alameda County**, **1131 Harbor Bay Pkwy**, **Alameda, CA 94502** and **Hayward Fire Dept**, **777 B Street**, **Hayward, CA 94541**

Treatment and Disposal of Affected Material:

Material	Amount (include units)	Action (Treatment or Disposal w/destination)	Date
Tank	**2 USTs**	**Unknown disposal facility**	**11/4/88**
Soil	**78 tons**	**Disposed at Casmalia Resources**	**4/1989**

Maximum Documented Contaminant Concentrations - - Before and After Cleanup

Contaminant	Soil (ppm)		Water (ppb)	
	Before[1]	After[2]	Before[3]	After[4]
TPH (Gas)	**3500**	**670**	**47,000**	**1700**
TPH (Diesel)	**24000**	**1100**	**270,000**	**950**
TPH (motor oil)			**3,300**	
Benzene	**1.1**[2]	**1.1**	**45**	**4**
Toluene	**46**	**23**	**6**	**5.1**
Ethylbenzene	**67**	**67**	**350**	**7.6**
Xylenes	**350**	**15**	**800**	**7.5**
MTBE	**NA**	**<.05**[5]	**<5.0**	**<5.0**

NOTE 1 soil sample from tank pit at 10' bgs, 11/88
2 soil sample from sidewall of tank pit after overexcavation at 17' bgs, 12/88
3 maximum historic concentrations detected in well MW-1 or in grab water samples
4 most recent result from well MW-1, 7/2000
5 soil sample collected from well MW-3 at 16' and 21' bgs

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? _____
Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? _____
Does corrective action protect public health for current land use? **YES**
Site management requirements: **A site safety plan must be prepared for construction workers in the event excavation/trenching is proposed in the vicinity of residual soil and groundwater contamination.**
Should corrective action be reviewed if land use changes? **YES**
Monitoring wells Decommissioned: **None, pending site closure**
Number Decommissioned: **0** Number Retained: **3**
List enforcement actions taken: **NA**
List enforcement actions rescinded: **NA**

V. LOCAL AGENCY REPRESENTATIVE DATA

Name: **Eva Chu** Title: **Haz Mat Specialist**

Signature: Eva Chu Date: 1/2/01

Reviewed by

Name: **Amir Gholami** Title: **Haz Mat Specialist**

Signature: Amir Gholami Date: 12/26/2000

Name: **Thomas Peacock** Title: **Supervisor**

Signature: Thomas Peacock Date: 12-28-00

VI. RWQCB NOTIFICATION

Date Submitted to RB: 1/3/01 RB Response: Concur

RWQCB Staff Name: **Chuck Headlee** Title: **AEG**

Signature: Chuck Headlee Date: 2/7/01

VII. ADDITIONAL COMMENTS, DATA, ETC.

The site was and currently is used as a home and garden center located in a commercial area. USTs at the site were used to fuel delivery vehicles.

Two USTs (1-3K gasoline, 1-1K diesel) were removed in November 1988. Four soil samples (A1, A2, B1 and B2) were collected from beneath the USTs. Up to 24,000ppm TPHd, 3,500ppm TPHg, and .57, 46, 63, and 350ppm BTEX, respectively, were detected. It was reported that in December 1988 the soil beneath the former diesel UST was overexcavated to groundwater, at approximately 18 feet bgs, but this office does not have documentation of this work. A confirmatory soil sample, SW-1 was collected from the east wall at 17.2 feet bgs. This sample contained 1,100ppm TPHd, 670ppm TPHg, and 1.1, 23, 15, and 67ppm BTEX, respectively. (See Fig 1, 2, and Table 1)

On August 1, 1991 a groundwater monitoring well, MW-1, was installed approximately 8 feet west (estimated downgradient direction) of the former tank location. Soil samples were collected at 5 foot intervals in the boring. A soil sample, DH-1, was also collected beneath the former fuel dispenser at approximately 5.5 feet bgs. Fuel odor was noted at DH-1, from 1.5 to 5.5 feet bgs. Greyish staining and fuel odors were also noted in the soil from MW-1 at approximately 10 feet bgs and persisted to 21 feet bgs. Groundwater was first encountered at approximately 17 feet bgs. Elevated hydrocarbon levels was noted in soil from MW-1 at 15 feet bgs (see Table 1). The other soil samples did not contain remarkable levels of contaminants. Groundwater contained elevated contaminants.

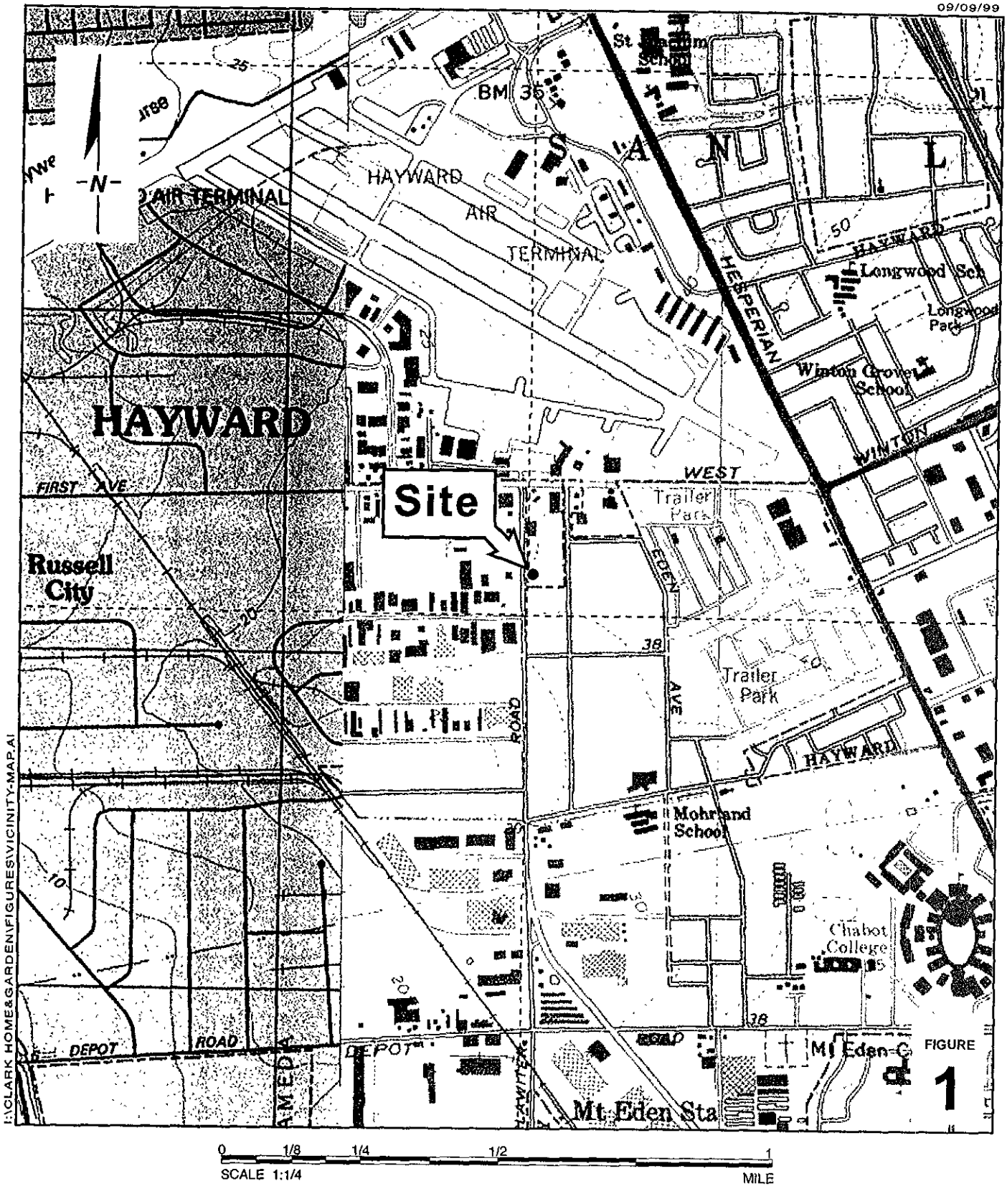
In November 1995 four exploratory borings, (B-1 through B-4), were advanced to further characterize groundwater conditions beneath the site. Groundwater was encountered at approximately 16 feet bgs in all four borings. Grab groundwater from the downgradient borings (B-1 and B-4) contained up to 11,000ppb TPHg, 270,000ppb TPHd, 3.3ppm TOG and low levels of BTEX. (See Fig 2, Table 2)

In February 1997 four shallow borings (B-5 through B-8) were advanced to further delineate the extent of the hydrocarbon plume downgradient of the former USTs. A soil sample was also collected at 13'bgs from boring B-5 for PNAs analysis. The grab water samples were analyzed for TPHg, TPHd, BTEX, and MTBE. Before TPHd analysis, all samples were cleaned with silica gel to remove polar biogenic material that could cause positive interference. And, to remove sediment that could contain adsorbed, non-dissolved petroleum hydrocarbons, a water sample from each boring was passed through a 0.7-micron glass fiber filter before TPHd analysis. Soil analytical results did not identify PNAs. Following silica gel cleanup of the water samples, considerably lower results were calculated for TPHd. Still, results for the sample from B-6 greatly exceeded the typical solubility of diesel, suggesting that separate-phase was present in the sample. (See Table 3)

Two additional groundwater monitoring wells (MW-2 and MW-3) were installed in October 1999. Soil samples collected from boring MW-3 at 16 and 21 feet bgs did not contain elevated petroleum hydrocarbon constituents. After four consecutive quarters of monitoring, it appears that the plume has been delineated and does not extend much beyond well MW-3. MTBE was not detected in any of the groundwater samples. Bioparameters measured in groundwater indicate that aerobic and anaerobic biodegradation is occurring at the site. Continued monitoring is not warranted. (See Fig 3, Tables 4, 5, and 6)

In summary, case closure is recommended because:

- the leak and ongoing sources have been removed;
- the site has been adequately characterized;
- the dissolved hydrocarbon plume is not migrating;
- no preferential pathways exist at the site;
- no water wells, deeper drinking water aquifers, surface water, or other sensitive receptors are likely to be impacted;
  An irrigation/domestic well was identified at 23415 Clawiter, downgradient of the site. This well consists of an 8-inch diameter casing. The well is completed to 130 feet bgs (unknown screen interval). Since the plume does not extend much beyond Well MW-3 and natural bioattenuation is occurring at the site, it is not likely that the well at 23145 Clawiter will be impacted by the contaminant plume.
- the site presents no significant risk to human health or the environment.



Clark's Home and Garden

23040 Clawiter Road

Hayward, California

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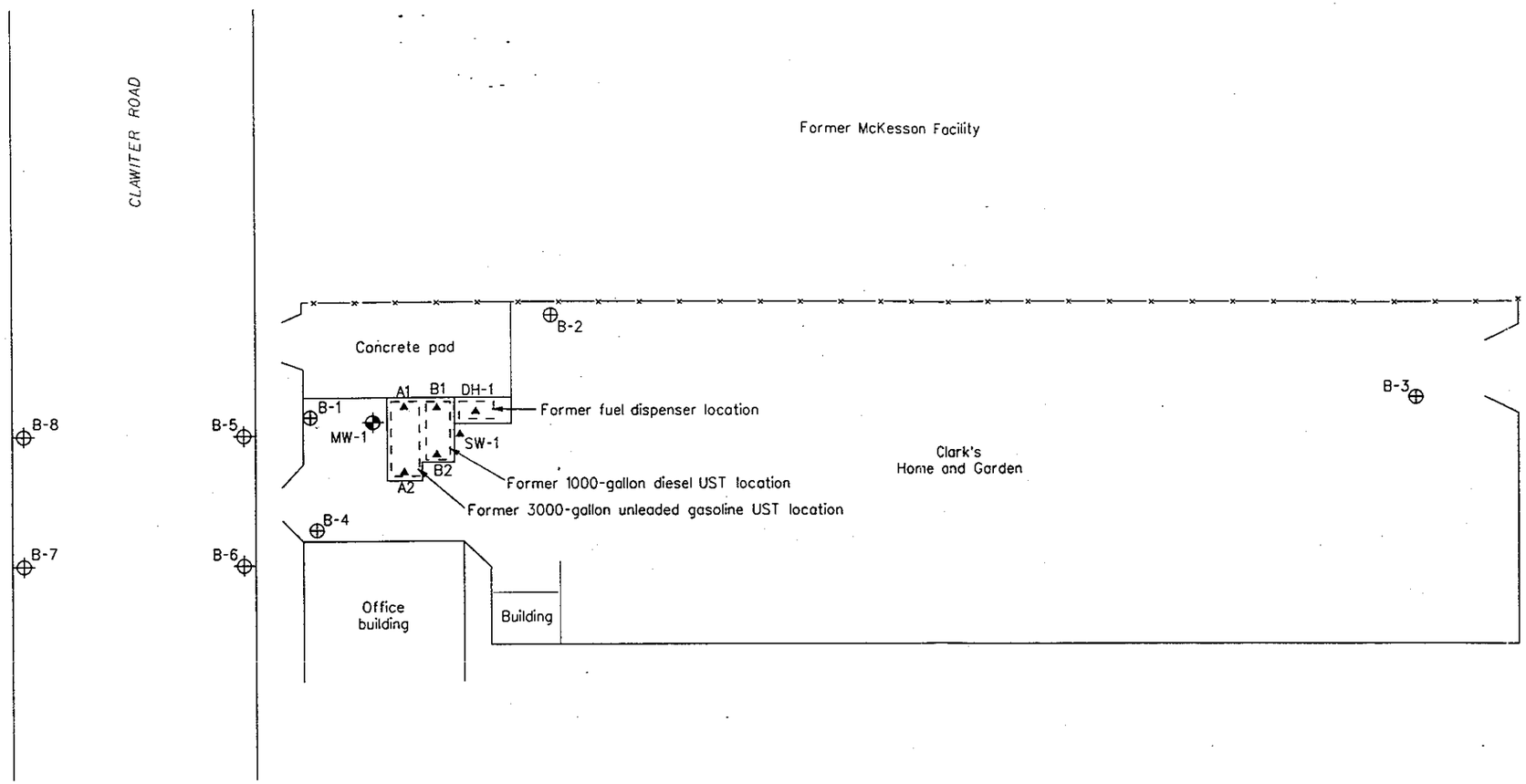
Vicinity Map

Fig 1



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SITE PLAN WITH RECENT AND HISTORICAL SOIL AND GROUNDWATER SAMPLING LOCATIONS
Clark's Home and Garden
23040 Clawiter Road
Hayward, California

GEOMATRIX	Project No. 2611	Figure 2

GEOMATRIX

TABLE 1

SUMMARY OF HISTORICAL SOIL ANALYTICAL RESULTS[1]

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

Concentrations in milligrams per kilograms (mg/kg)

Sample Name	Date	Depth (feet bgs[2])	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-Benzene	Total Xylenes
A1	11/4/88	13	---[3]	5.1	<0.05	<0.01	<0.1	<0.1
A2	11/4/88	13	---	<1.0	<0.05	<0.1	<0.1	<0.1
B1	11/4/88	10	24,000	2700	0.43	33	61	350
B2	11/4/88	10	23,000	3500	0.57	46	63	350
SW-1	12/19/88	17.2	1100	670	1.1	23	67	15
DH-1	8/1/91	5.5	29	9.9	BTEX detected between 0.0027 and 0.3 mg/log			
MW-1	8/1/91	5.5	ND[4]	ND	ND	ND	ND	ND
MW-1	8/1/91	10.5	ND	ND	ND	ND	ND	ND
MW-1	8/1/91	15.0	350	6700	ND	ND	6.6	27
EPA Region IX Industrial PRG[5]			NA[6]	NA	1.4	880	230	320

Notes:

1. Soil samples analyzed by Sequoia Analytical of Redwood City, California, for total petroleum hydrocarbons (TPH) as diesel and gasoline using modified Environmental Protection Agency (EPA) Method 8015, and for benzene, toluene, ethylbenzene, and xylenes using EPA Method 8020.
2. feet bgs = feet below ground surface.
3. --- indicates not analyzed for that compound.
4. ND = not detected at or above reporting limit; reporting limit not available.
5. PRG = Preliminary Remediation Goal.
6. NA = No PRG established.

GEOMATRIX

TABLE 2

SUMMARY OF GRAB GROUNDWATER ANALYTICAL RESULTS
22 NOVEMBER 1995 INVESTIGATION[1]

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

Concentrations in micrograms per liter (µg/l) unless otherwise indicated.

Sample Name	Date	TPH[2] as Gasoline[3] (mg/l)[4]	TPH as Diesel[3] (mg/l)	TPH as Motor Oil[3] (mg/l)	Benzene[5] µg/L	Toluene[5]	Ethyl-benzene[5]	Total Xylenes[5]
B-1	11/22/95	9.2	51.0	0.84	18	15	80	8
B-2/B-12[6]	11/22/95	2.5/1.2	0.75/0.22	<0.2/<0.2	<0.5/<0.5	<0.5/<0.5	7.1/8.3	<0.5/<0.5
B-3	11/22/95	<0.05	<0.05	<0.2	<0.5	<0.5	<0.5	0.6
B-4	11/22/95	11.0	270.0	3.3	<1[7]	18	150	81

Notes:

1. Analyses conducted by Friedman & Bruya, Inc., of Seattle, Washington.
2. TPH = total petroleum hydrocarbon.
3. TPH as gasoline, diesel, and motor oil analyzed using modified EPA Method 8015 (silica gel cleanup performed on extractions prior to analysis for TPH as diesel and motor oil).
4. mg/l = milligrams per liter.
5. Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA Method 8020.
6. Duplicate sample result.
7. Sample was diluted by the laboratory and detection limit raised due to dilution.

GEOMATRIX

TABLE #3

SUMMARY OF GRAB GROUNDWATER ANALYTICAL RESULTS
19 FEBRUARY 1997 INVESTIGATION[1]

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

Concentrations in micrograms per liter (µg/l) unless otherwise noted.

Sample Name	Sample Date	TPH as Diesel[2] (mg/l)	TPH as Gasoline (mg/l)	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
B-5	2/19/97	25[3]	4.7	2	5	37	9	<2[4]
B-5F[5]	2/19/97	0.55[3]	---[6]	---	---	---	---	---
B-6	2/19/97	1100[7]	8.6	4	13	90	10	<2[4]
B-6F[5]	2/19/97	180[7]	---	---	---	---	---	---
B-7	2/19/97	12[7]	3.4	2	5	3	8	<0.5
B-7 dup	2/19/97	2.1[7]	3.5	1.9	5.3	<0.5	11	<0.5
B-7F[5]	2/19/97	0.4[7,8]	---	---	---	---	---	---
B-8	2/19/97	7.6	6.3	4	8	10	16	<2[4]
B-8F[5]	2/19/97	0.36[7,8]	---	---	---	---	---	---
EB-1	2/19/97	<0.05	<0.05	<0.5	<0.05	<0.5	<0.5	<0.5
EB-1F[5]	2/19/97	5/0.17[9]	---	---	---	---	---	---

Notes:

1. Grab groundwater samples analyzed by Friedman & Bruya, Inc., of Seattle, Washington, for total petroleum hydrocarbons (TPH) as diesel and gasoline using modified Environmental Protection Agency (EPA) Method 8015; and for benzene, toluene, ethylbenzene, total xylenes, and methyl tertiary butyl ether (MTBE) using EPA Method 8020.
2. Grab groundwater sample extracts were passed through a silica gel column prior to TPH as diesel analysis.
3. Laboratory notes the pattern of peaks in the chromatogram is not indicative of diesel #2.
4. Detections limits raised due to dilution.
5. The sample was filtered with a 0.7-micron glass fiber filter.
6. --- indicates not analyzed.
7. Laboratory notes the pattern of peaks present is indicative of a mixture of petroleum products, a portion of which is indicative of diesel.
8. The sample was extracted after hold time had expired.
9. This sampe was re-analyzed to confirm results.

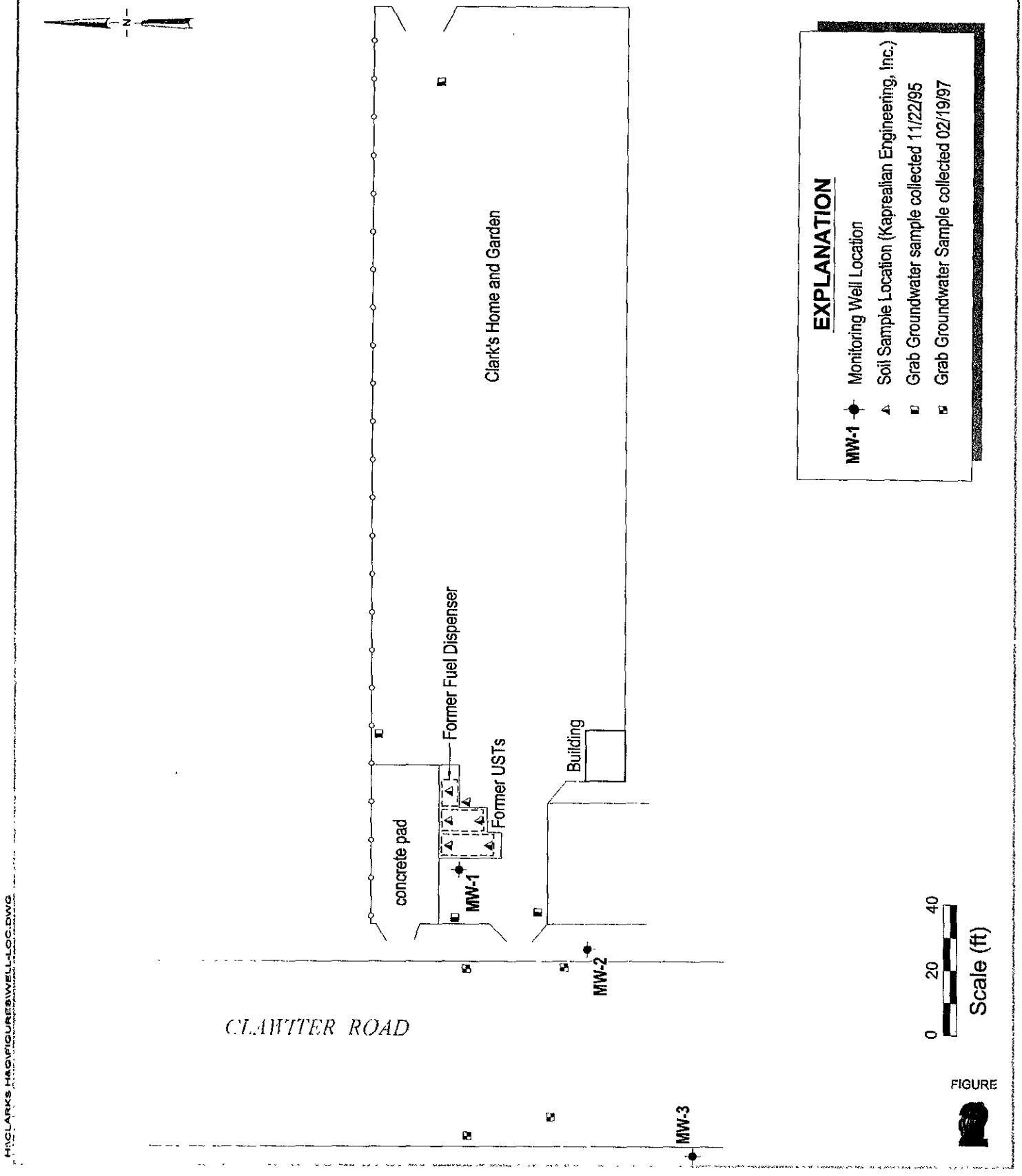

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FIGURE 3

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

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Groundwater Monitoring Well Locations

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Table 4. Soil Sample Analytic Data - Clark's Home and Garden, 23040 Clawiter Road, Hayward, California

Sample ID	Sample Depth (ft)	Sample Date	TPHd	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
			<----------(mg/kg)---------->						
MW-3 @ 16'	16.0	8/18/99	1.6[a]	<1.0	<0.005	<0 005	<0.005	<0.005	<0.05
MW-3 @ 21'	21.0	8/18/99	1.1[b]	2.6[c]	<0.005	<0.005	<0.005	<0.005	<0.05

Notes:

TPHd = Total purgeable petroleum hydrocarbons as diesel by EPA method Modified 8015

TPHg = Total purgeable petroleum hydrocarbons as gasoline by EPA method Modified 8015.

Benzene, toluene, ethylbenzene, xylenes (BTEX) by EPA method 8020.

MTBE = Methyl tert-butyl ether by modified EPA method 8020

a = Analytical laboratory notes diesel range compounds are significant; no recognizable pattern.

b = Analytical laboratory notes gasoline range compounds are significant.

c = Analytical laboratory notes no recognizable pattern.

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Table 5. 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	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
				<----------	----------	----------	(µg/L)	----------	----------	---------->
MW-1	8/7/91	--	--	5,900	7,100	45	<25	130	520	--
35.30	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
	7/21/00	**13.81**	**21.49**	**1700[c,j]**	**950[d,e]**	**4.0**	**5.1**	**7.6**	**7.5**	**<5.0**
MW-2	10/15/99	13.86	20.76	4300[g,j]	3,100	<1	6.7	11	11	<5.0
34.62	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
	7/21/00	**13.23**	**21.39**	**610[c,j]**	**370[d]**	**<0.5**	**1.7**	**1.2**	**1.4**	**<5.0**
MW-3	10/15/99	14.88	20.42	<50	99	<0.5	<0.5	<0.5	<0.5	<5.0
35.30	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
	7/21/00	**14.27**	**21.03**	**<50**	**64[e]**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5.0**

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Cont. Table 5. 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	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
				<----------	----------	----------	(µg/L) ----------	----------	----------	---------->
TB	10/15/99	--	--	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0

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	Nitrate	Sulfate	Ferrous Iron	Alkalinity	DO	TPHg
		mV	← mg/l →					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
	7/21/00	**79**	**1**	**25**	**2.4**	**640**	**0.55**	**1,700**
MW-2	1/25/00	-130	20	42	0.3	520	0.31	2,300
	4/27/00	106	15	32	<0.2	410	1.29	730
	7/21/00	**--**	**10**	**52**	**1.0**	**440**	**1.08**	**610**
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
	7/21/00	**--**	**68**	**84**	**<0.2**	**440**	**0.65**	**<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
-- = not available, not analyzed, or does not apply

EXPLORATION DRILL HOLE LOG

HOLE No. MW-1

PROJECT: CLARK'S HOME & GARDEN | DATE: 8/1/91 | LOGGED BY: SMC

DRILL RIG: CME 55 - Hollow Stem | HOLE DIA.: 8" | SAMPLER: Mod. Cal.

GROUNDWATER DEPTH INITIAL: 17' | FINAL: 17.4' (after 4 days) | HOLE ELEV.: ± 30'

DESCRIPTION	SOIL TYPE	DEPTH	SAMPLE	BLOWS PER FOOT	POCKET PEN. (tsf)	TORVANE (tsf)	PID (ppmv)	LIQUID LIMIT	WATER CONTENT	PLASTIC LIMIT	DRY DENSITY (pcf)	FAILURE STRAIN (%)	UNCONFINED SHEAR STRENGTH (psf)
SILTY GRAVEL; brown, dry, minor sand; fill; odorless	GM	1											
CLAY; blackish-brown, moist; fill; odorless	CI	2											
POORLY GRADED GRAVEL; grey, dry; fill (1-1/2" base rock); odorless	GP	3 4											
SANDY CLAY; brown, damp, very stiff; approx. 40% fine sand; minor organics; odorless	CI	5 6 7 8	X	17			0.0						
CLAYEY SAND; brown, moist, medium dense; fine sand; approx. 45% clayey fines; odorless	SC	9 10											
SANDY CLAY; brown, moist, stiff; fine sand	CI	11	X	12			0.0						
stained grey coloration; fuel odor		12 13					61.8 (cuttings)						
decreasing fines; fuel odor and staining; wet		14 15					2153						
POORLY GRADED SAND; grey, wet, medium dense; fuel odor and staining	SP	16 17	X	12						▼			
CLAY WITH SAND; dark grey, moist, stiff; slight fuel odor	CI	18 19 20											

EXPLORATION DRILL HOLE LOG

HOLE No. MW-1

PROJECT: CLARK'S HOME & GARDEN | DATE: 8/1/91 | LOGGED BY: SMC

DRILL RIG: CME 55 - Hollow Stem | HOLE DIA: 8" | SAMPLER: Mod. Cal.

GROUNDWATER DEPTH INITIAL: 17' | FINAL: 17.4' (after 4 days) | HOLE ELEV: + 30'

DESCRIPTION	SOIL TYPE	DEPTH	SAMPLE	BLOWS PER FOOT	POCKET PEN (tsf)	TORVANE (tsf)	PID (ppmv)	LIQUID LIMIT	WATER CONTENT	PLASTIC LIMIT	DRY DENSITY (pcf)	FAILURE STRAIN (%)	UNCONFINED SHEAR STRENGTH (psf)
CLAY WITH SAND; dark grey, moist, stiff; slight fuel odor	CI	21	/	8			211						
		22	/										
		23											
		24											
brown with grey mottles; minor root holes; odorless		25	/										
		26	/	8									
BOTTOM OF HOLE AT 26'		27											
Monitoring well MW-1 installed to a completed depth of 25'		28											
		29											
		30											
		31											
		32											
		33											
		34											
		35											
		36											
		37											
		38											
		39											
		40											

Cambria Environmental Technology, Inc.
1144 - 65th St.
Oakland, CA 94608
Telephone: (510) 420-0700
Fax: (510) 420-9170

BORING/WELL LOG

CLIENT NAME	Clark's Home and Garden	**BORING/WELL NAME**	MW-2
JOB/SITE NAME	Clark's Home and Garden	**DRILLING STARTED**	18-Aug-99
LOCATION	23040 Clawiter Road, Hayward, California	**DRILLING COMPLETED**	18-Aug-99
PROJECT NUMBER	189-1517	**WELL DEVELOPMENT DATE (YIELD)**	18-Aug-99
DRILLER	V&W Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	Not Surveyed
BORING DIAMETER	8"	**SCREENED INTERVAL**	10 to 25 ft bgs
LOGGED BY	J. Jones	**DEPTH TO WATER (First Encountered)**	18.0 ft (18-Aug-99) ▽
REVIEWED BY	D. Elias, RG# 6584	**DEPTH TO WATER (Static)**	15.00ft (18-Aug-99) ▼
REMARKS	Hand augered to 5' bgs; located in planter in front of 23040; logged from soil cuttings.		

TPHg (mg/kg)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)	WELL DIAGRAM
					SP		**SAND with Silt and Gravel**; (SP); brown; dry; 5% clay, 15% silt, 65% sand, 15% gravel; high estimated permeability.	1.0	
					ML		**SILT**; (ML); dark brown; dry; 5% clay, 85% silt, 10% very fine to fine grained sand; no plasticity; moderate estimated permeability.		Portland Type I/II
				5				5.0	
					SM		**Silty SAND with Gravel**; (SM); light brown; dry; 20% silt, 65% sand, 15% gravel; moderate to high estimated permeability.		
								8.0	Bentonite Seal
							SILT; (ML); light brown; moist; 85% silt, 10% sand, 5% gravel; slight plasticity; low to moderate estimated permeability.		Monterey Sand #3
				10					
				15	ML		@ 15' - as above; olive grey mottled with brown; 5% clay, 80% silt, 10% very fine grained sand, 5% angular gravel to 1"; low plasticity; low to moderate estimated permeability. ▼ ▽		2"-diam., 0.010" Slotted Schedule 40 PVC
				20			@ 20' - as above; olive grey; damp' 90% silt, 5% very fine grained sand, 5% gravel; very low plasticity; low to moderate estimated permeability.		
				25				25.0	Bottom of Boring @ 25 ft

WELL LOG (TPH-G) H:\CLARKS-1\GINT\CLARKSHG.GPJ DEFAULT.GDT 9/10/99

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BORING/WELL LOG

CLIENT NAME	Clark's Home and Garden	**BORING/WELL NAME**	MW-3
JOB/SITE NAME	Clark's Home and Garden	**DRILLING STARTED**	18-Aug-99
LOCATION	23040 Clawiter Road, Hayward, California	**DRILLING COMPLETED**	18-Aug-99
PROJECT NUMBER	189-1517	**WELL DEVELOPMENT DATE (YIELD)**	18-Aug-99
DRILLER	V&W Drilling	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	Not Surveyed
BORING DIAMETER	8"	**SCREENED INTERVAL**	10 to 30 ft bgs
LOGGED BY	J. Jones	**DEPTH TO WATER (First Encountered)**	25.0 ft (18-Aug-99)
REVIEWED BY	D. Elias, RG# 6584	**DEPTH TO WATER (Static)**	15.00ft (18-Aug-99)
REMARKS	Hand augered to 5' bgs; located in sidewalk planter across Clawiter Road from 23040.		

TPHg (mg/kg)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ft bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (ft bgs)
					SM		**Silty SAND**; (SM); light brown; dry; 5% clay, 20% silt, 65% sand, 10% gravel; no plasticity; high estimated permeability.	1.0
					ML		**Sandy SILT**; (ML); dark brown; dry; 5% clay, 65% silt, 30% sand; slight plasticity; moderate estimated permeability.	
	10 7 14	MW-3@6'		5			**Silty SAND**; (SM); light brown; medium dense; dry; 20% silt, 80% fine grained sand; no plasticity; moderate estimated permeability.	5.5
	6 6 8	MW-3@11'		10	SM		@ 10' - as above; moist; 5% clay, 20% silt, 70% fine grained sand, 5% gravel.	
<1.0	4 5 7	MW-3@16'		15			@ 15' - as above; damp; 10% clay, 30% silt, 60% very fine to fine grained sand; slight plasticity.	18.0
							Clayey SILT; (ML); dark brown; very stiff; damp; 20% clay, 80% silt; low to medium plasticity; low estimated permeability.	
2.6	4 8 11	MW-3@21'		20				
	5 7 8	MW-3@26'		25	ML		**SILT with SAND**; (ML); light brown; stiff; damp; 5% clay, 80% silt, 15% very fine to fine grained sand; very low plasticity; low estimated permeability.	
	10 12 15	MW-3@31'		30			@ 30' - as above; brown; very stiff; 10% clay, 70% silt, 15% very fine grained sand, 5% gravel; low plasticity; low to moderate estimated permeability.	31.5

WELL DIAGRAM

- Portland Type I/II
- Bentonite Seal
- Monterey Sand #3
- 2"-diam., 0.010" Slotted Schedule 40 PVC
- Bottom of Boring @ 31.5 ft

WELL LOG (TPH-G) H:\CLARKS~1\GINT\CLARKSHG.GPJ DEFAULT GDT 9/10/99

PROJECT: CLARK'S HOME AND GARDEN
Hayward, California

Log of Boring No. B-5

BORING LOCATION: East side of Clawiter Boulevard

ELEVATION AND DATUM: Feet below ground surface (BGS)

DRILLING CONTRACTOR: Precision Sampling, Inc.

DATE STARTED: 2/19/97 | DATE FINISHED: 2/19/97

DRILLING METHOD: Direct Push Technology

TOTAL DEPTH: 22 feet | MEASURING POINT: ---

DRILLING EQUIPMENT: XD-1

DEPTH TO WATER: FIRST --- | COMPL. ---

SAMPLING METHOD: 3-foot x 2.5-inch continuous Envirocore

LOGGED BY: N. Taylor

HAMMER WEIGHT: --- | DROP: ---

RESPONSIBLE PROFESSIONAL: R. Steenson | REG. NO. RG 6592

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION (NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl. geo. inter.)	REMARKS
					Surface Elevation: ---	
0					Asphalt	
					Baserock	
1					CLAYEY SAND with GRAVEL (SC) Dark brown (10YR 3/3), moist, 50% fine to coarse sand, 25% low to medium plasticity fines, 25% subangular gravel	
2				4.4		
3						
4						
5						
6				4.4	SILTY GRAVEL with SAND (GM) Very pale brown (10YR 8/3), moist, 70% subrounded poorly-graded gravel, 15% low plasticity fines, 15% fine sand	
7						
8						
9				4.6		
10						
11					CLAYEY SAND (SC) Olive brown (2.5Y 4/4), moist, 70% fine sand, 30% medium plasticity fines	
12	B5-13			1.9		
13					LEAN CLAY (CL) Light olive brown (2.5Y 4/3), wet, 95% low plasticity fines, 5% fine sand	Odor
14				1.8	Zone of red mottling Color change to dark greenish gray (5GY 4/1)	
15						

B-1 (12/95)

Project No. 2611.01 | Geomatrix Consultants | Figure A-2

2611.001

PROJECT: CLARK'S HOME AND GARDEN
Hayward, California

Log of Boring No. B-5 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl. geo. inter.	REMARKS
16				300	LEAN CLAY (CL) (continued)	Drive casing retracted to 14 feet BGS. One-inch-diameter PVC temporary well installed with 0.01-inch slot well screen from 12 to 22 feet BGS for collection of grab groundwater sample B-5.
17				170		
18					2-inch sand layer, wet	
					1-inch sand layer, wet	
19				81	Color change to dark greenish gray (5GY 3/1)	
20						
21				46		Boring destroyed by backfilling the borehole through the casing with cement grout and then removing the casing.
22					Bottom of boring at 22.0 feet.	
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						
33						

PROJECT: CLARK'S HOME AND GARDEN
Hayward, California

Log of Boring No. B-6

BORING LOCATION: East side of Clawiter Boulevard on grass strip

ELEVATION AND DATUM: Feet below ground surface (BGS)

DRILLING CONTRACTOR:

DATE STARTED: 2/19/97 | DATE FINISHED: 2/19/97

DRILLING METHOD: Direct Push Technology

TOTAL DEPTH: 22 feet | MEASURING POINT: ---

DRILLING EQUIPMENT: XD-1

DEPTH TO WATER: FIRST --- | COMPL. ---

SAMPLING METHOD: 3-foot x 2.5-inch continuous Envirocore

LOGGED BY: N. Taylor

HAMMER WEIGHT: --- | DROP: ---

RESPONSIBLE PROFESSIONAL: R. Steenson | REG. NO. RG 6592

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl geo. inter.	REMARKS
					Surface Elevation: ---	
					1 foot organic material (landscaping)	
1					LEAN CLAY (CL) Black (10YR 2/1), moist, 90% medium plasticity fines, 10% fine sand, trace plant material	
2						
3					Color change to very dark grayish brown (10YR 3/2)	
4					Color change to brown (10YR 4/3)	
5				1.8	CLAYEY SAND (SC) Brown (10YR 5/3), moist, 70% fine sand, 30% low to medium plasticity fines	
6						
7					SANDY LEAN CLAY (CL) Brown (10YR 5/3), moist, 70% low to medium plasticity fines, 30% fine sand	
8						
9						
10					CLAYEY SAND (SC) Brown (10YR 5/3), moist, 60% fine sand, 40% low to medium plasticity fines	
11				0.9		
12						
13					Wet	
14						
15						

B-1 (12/95)

Project No. 2611.01 | Geomatrix Consultants | Figure A-3

2611.003

PROJECT: CLARK'S HOME AND GARDEN
Hayward, California

Log of Boring No. B-6 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl. geo. inter.	REMARKS
16				3.9	CLAYEY SAND (SC) (continued) WELL-GRADED SAND Brown (10YR 4/3), wet, 80% fine to medium sand, 20% nonplastic fines	Odor
17				226	LEAN CLAY (CL) Dark greenish gray (10Y 4/1), moist to wet, 95% fines, 5% fine sand, medium plasticity	Drive casing retracted to 17 feet BGS. One-inch-diameter PVC temporary well installed with 0.01-inch slot well screen from 12 to 22 feet BGS for collection of grab groundwater sample B-6.
18					2-inch lens of sand, wet	
19					2-inch lens of sand, wet	
20					Color change to dark greenish gray (10Y 3/1)	
21						
22					Bottom of boring at 22.0 feet.	Boring destroyed by backfilling the borehole through the casing with cement grout and then removing the casing.
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						
33						

PROJECT: CLARK'S HOME AND GARDEN
Hayward, California

Log of Boring No. B-7

BORING LOCATION: West side of Clawiter Boulevard	ELEVATION AND DATUM: Feet below ground surface (BGS)
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 2/19/97 / DATE FINISHED: 2/19/97
DRILLING METHOD: Direct Push Technology	TOTAL DEPTH: 22 feet / MEASURING POINT: ---
DRILLING EQUIPMENT: XD-1	DEPTH TO WATER: FIRST --- / COMPL. ---
SAMPLING METHOD: 3-foot x 2.5-inch continuous Envirocore	LOGGED BY: N. Taylor
HAMMER WEIGHT: --- / DROP: ---	RESPONSIBLE PROFESSIONAL: R. Steenson / REG. NO. RG 6592

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl geo. inter.	REMARKS
					Surface Elevation: ---	
					Asphalt	
					Baserock	
1-2					CLAYEY SAND with GRAVEL (SC) Dark brown (10YR 3/3), moist, 50% fine to medium sand, 25% low to medium plasticity fines, 25% subangular gravel	
3-4						
5-6						
7					Lens of silty sand (SM), brown (10YR 5/3), slightly moist, 80% fine to medium sand, 20% nonplastic fines	
8-9						
10					LEAN CLAY with SAND (CL) Brown (10YR 5/3), moist, 80% low to medium plasticity fines, 10-20% fine sand, hard	
11					SILTY SAND (SM) Brown (10YR 5/3), moist, 80% fine to medium sand, 20% non to low plastic fines	
12					Wet	
13					WELL-GRADED GRAVEL with SAND and SILT (GW-GM) Brown (10YR 5/3), wet, 60% subrounded gravel, 30% fine to medium sand, 10% low plasticity fines	
14-15					SILTY SAND (SM) Brown (10YR 5/3), wet, 80% fine sand, 20% non to low plastic fines	

PROJECT: CLARK'S HOME AND GARDEN
Hayward, California

Log of Boring No. B-7 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl, geo. inter.	REMARKS
16					LEAN CLAY (CL) Brown (10YR 5/3), 80% medium plasticity fines, 20% fine sand, soft	
					Decrease in sand to 5%	
17					Color change to dark greenish gray (10YR 4/1), medium hard	Odor
					2-inch sand layer	Drive casing retracted to 17 feet BGS. One-inch-diameter PVC temporary well installed with 0.01-inch slot well screen from 12 to 22 feet BGS for collection of grab groundwater sample B-7.
18					2-inch sand layer	
19					Color change to dark greenish gray (10Y 3/1)	
20						
21						
22					Bottom of boring at 22.0 feet.	Boring destroyed by backfilling the borehole through the casing with cement grout and then removing the casing.
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						
33						

B-2 (12/95)

PROJECT: CLARK'S HOME AND GARDEN
Hayward, California

Log of Boring No. B-8

BORING LOCATION: West side of Clawiter Boulevard	ELEVATION AND DATUM: Feet below ground surface (BGS)
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 2/19/97 / DATE FINISHED: 2/19/97
DRILLING METHOD: Direct Push Technology	TOTAL DEPTH: 22 feet / MEASURING POINT: ---
DRILLING EQUIPMENT: XD-1	DEPTH TO WATER: FIRST 12.5 feet / COMPL. ---
SAMPLING METHOD: 3-foot x 2.5-inch continuous Envirocore	LOGGED BY: N. Taylor
HAMMER WEIGHT: --- / DROP: ---	RESPONSIBLE PROFESSIONAL: R. Steenson / REG. NO. RG 6592

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION (NAME (USCS Symbol), color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl, geo. inter.)	REMARKS
					Surface Elevation: ---	
					Asphalt	
1					Baserock	
2					CLAYEY SAND with GRAVEL (SC) Dark brown (10YR 3/3), slightly moist, 50% fine to coarse sand, 25% low to medium plasticity fines, 25% subangular gravel	
3						
4						
5						
6					SANDY LEAN CLAY (CL) Brown (10YR 5/3), moist, 70% low to medium plasticity fines, 30% fine sand, hard, root fragments	
7						
8						
9				1.1	SILT with SAND (ML) Yellowish brown (10YR 5/4), moist, 80% nonplasticity fines, 20% fine sand	
10						
11					SILTY SAND (SM) Yellowish brown (10YR 5/4), moist, 80% fine to medium sand, 20% non to low plastic fines	
12					LEAN CLAY (CL) Yellowish brown (10YR 5/4), wet, 80% low to medium plasticity fines, 20% fine sand ATD ▽	
13					SILTY SAND (SM) Yellowish brown (10YR 5/4), wet, 80% fine to medium sand, 20% non to low plastic fines	
14				1.1	LEAN CLAY (CL) Yellowish brown (10YR 5/4), wet, 95% medium plasticity fines, 5% fine sand, soft	
15						

PROJECT: CLARK'S HOME AND GARDEN
Hayward, California

Log of Boring No. B-8 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl. geo. inter.	REMARKS
16					CLAY (CL) (continued) 2-inch lens of well-graded sand	No odor
17					Color change to dark greenish gray (10Y 4/1), medium hard, odor	Odor
18				93	2-inch lens of well-graded sand 2-inch lens of well-graded sand	Drive casing retracted to 17 feet BGS. One-inch-diameter PVC temporary well installed with 0.01-inch slot well screen from 12 to 22 feet BGS for collection of grab groundwater sample B-8.
19				35	Color change to dark greenish gray (5GY 3/1)	
20						
21						
22					Bottom of boring at 22.0 feet.	Boring destroyed by backfilling the borehole through the casing with cement grout and then removing the casing.
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						
33						