3030

REPORT OF
Subsurface Investigation
Beck Roofing Company
Hayward, CA
Revised May 16,2000

581-6750
Beck Roofing

Prepared for:
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(Beck Roofing). This response complies the Work Plan dated August 25, 1999 as amended October 15, 1999 and by the October 19, 1999 Brown and Sullivan letter signed by Mr. Gholami of EHS. The October 19 letter is included as Appendix A.

Beck Roofing is located at 21123 Meekland Avenue, Hayward, Alameda County, California. Figure 1 is the site location map. The report presents the results of fieldwork performed the week of November 8, 1999.

2.0 SITE BACKGROUND

Beck Roofing is a commercial roofing business. The property is located on the south side of Meekland Avenue, at 21123 Meekland Avenue. Site usage includes equipment and materials storage, shop and office facilities. Site specific information was obtained from the owners, Mr. Charles and Mrs. Mary Beck, or from the existing environmental reports and documents.

The site is in an unincorporated section of Alameda County, south of San Leandro and north of the Hayward city limits. Area land use is mixed residential, commercial and industrial. The yard contains an office building, warehouse and workshops. Beck Roofing also stores trucks and other equipment within the yard.

Beck Roofing installed an underground 1000-gallon steel tank during the 1970s following the gasoline crisis. The tank stored gasoline for refueling company trucks and serviced a single dispensing pump.

The tank was installed with a concrete slab cap over the backfill material. The original tank pit was filled with pea gravel available on-site. The tank was located in the driving area of the Beck Roofing yard, next to a previously existing shed. Figure 2 Site Plan pre-1999, shows the former tank location. Gasoline usage was variable depending on number of active jobs and distance to job sites. Beck Roofing provided a rough estimated usage rate of 300 to 400 gallons per month.

The tank was removed during May 1991. Several stages of environmental investigation, remediation and monitoring followed, from 1991 until the present. Figure 2 shows the facility layout and location of four groundwater monitoring wells and other soil borings installed during pre-1999 environmental investigations.

3.0 SITE GEOLOGY AND HYDROGEOLOGY

L&W Environmental Services (L&W) January 1992 report briefly describes area geology and hydrogeology as follows: The site elevation is approximately 55 feet above sea level, in a geologic province of San Francisco Bay. The Bay to the west and the Berkeley Hills to the east affect site geology. Alluvial and bay sediments underlie the site with basement rock at depth. "Groundwater in this region is located at relatively shallow depths, in granular aquifers laid down by alluvial action on the nearby Berkeley Hills. Groundwater is often contained in granular deposits layered and confined by various fine grained deposits at depths of about 20 feet below ground surface." (L&W, 1992) Site lithology and hydrogeology are discussed further below.

1.0 INTRODUCTION

This report responds to an October 18, 1999 letter from Mr. Amir Gholami of the Alameda County

3.1 Site Lithology

Site lithology, as indicated by the boring logs, consists of interbedded silty clay, clay, sand and silty sand. The site is typical of east bay regions close to San Francisco Bay with interfingered layers of fine grained and coarse-grained materials.

Figures 3 and 4 are geologic cross sections of the facility based on soil borings drilled during 1991 and 1994. The 1999 borings logs fit the general lithology patterns described in Figures 3 and 4. Figure 3 is an east-west cross section roughly through MW-2 in the east to B-2, MW-3 and MW-4 in the west. The data from the included borings suggests that the sediments are coarser grained (sand and silty sand) from about 15 to 20 feet below ground surface (bgs) in the eastern portion of the site. Fine-grained sediments (silty clay, clay) predominate the same depths near MW-4. Figure 4 is a north-south cross section intersecting Figure 3 at MW-4. This cross section shows primarily silty and clayey material with a sand layer of variable thickness. The sand layer ranges from approximately 15 feet thick, beginning at 17 feet bgs in SB-20 (north), to approximately three feet thick, beginning at 15 feet bgs in SB-19 (south).

3.2 Site Hydrogeology

Site hydrogeology describes aquifer characteristics such as the groundwater flow direction, gradient, levels and well productivity. Groundwater flows roughly west across this site. Thus, MW-2 is the site up-gradient well. MW-1 is cross-gradient to the former underground tank location. MW-3 and MW-4 are down gradient wells. The groundwater gradient varies from approximately 0.001 to 0.005 feet per foot. Water levels in the wells rose following well installation per the Anderson and Lush Geosciences quarterly monitoring reports. This suggests that the groundwater may be partially confined.

The September 1997 groundwater levels represent typical values for in the Beck Roofing monitoring wells. The September 1997 water levels prior to purging, were 26.3 to 26.8 feet below ground surface (bgs). Groundwater elevations at Beck Roofing range from a high of 21.2 feet bgs in MW-4 (2/5/97) to a low of 30.1 feet bgs in MW-1 and MW-4 (10/25/94). 1999 measured groundwater levels fall within the typical range for this site.

Well pump tests were not performed to determine production rates. However, well purge pumps operating at an estimated 0.5 to 0.75 gallons per minute, did not empty the wells during the fall 1997 and January 1999 monitoring events.

4.0 PREVIOUS SITE ENVIRONMENTAL ACTIVITIES — SOILS

Various firms performed the tank removal, subsurface investigations and stockpiled soil sampling between 1991 and 1997. This section summarizes the soil-related activities, data and findings. Appendix B, Tables B1 and B2, present the pre-1999 soil data.

4.1 Tank Removal and Soil Sampling - 1991

Beck Roofing contracted with Blaine Tech Services (Blaine) via R.L. Stevens to remove the underground gasoline tank. Blaine removed the tank on May 20, 1991. Field observations reported by Blaine included "two small holes in the bottom of the tank at each end."

Soil samples were collected from soils beneath the tank and excavated soils. An estimated 14 cubic yards of soil were excavated and stockpiled during tank removal. Sample analyses for soils beneath the tank contained 1,300 and 1,800 ppm of gasoline range petroleum hydrocarbons (TPHg).

Stockpiled (excavated) soils contained 11 ppm TPHg. Organic lead was below 1 ppm. Benzene, toluene, ethylbenzene and xylene (BTEX) for the stockpiled soils were at nondetectable levels.

An August 5, 1991 letter from the Alameda County Department of Environmental Health (DEH) required Beck Roofing to perform a soil and groundwater investigation. Pursuant to the August 5, 1991, DEH letter, L&W Environmental Services (L&W) drilled and sampled five soil borings during October 1991. Three of these borings were converted to monitoring wells, MW-1, MW-2 and MW-3 (Figure 2). L&W excavated soils to remove contamination from the former tank location, based on the soil boring results. The December 1991 excavation had the approximate dimensions 10' x 13' x 17' deep. Excavated soils were stockpiled on-site for aeration.

L&W excavated additional soils during December 1991. Six of the eight soil samples collected and analyzed contained TPHg at or above the state action level of 1000 ppm. The L&W January 7, 1992 report data shows detectable levels of contaminated soils at depths greater than 15 feet below ground surface (bgs).

L&W 1992 report figures show the extent of TPHg contamination at 15, 20, 25 and 30 foot depths. TPHg above 100 ppm was detected at the 20-foot depth in the area immediately surrounding the excavation only. TPHg levels at greater distances and other depths were less than 100 ppm. L&W backfilled the excavation with 189 cubic yards of a proprietary fill material resembling concrete. This material was removed during the 1994 subsurface investigation described below and replaced with pea gravel.

4.2 Soil Investigation –1994

Anderson Consulting Group (Anderson) drilled four additional soil borings during July 1994. Anderson converted one boring (SB-18) to an additional monitoring well, MW-4, other borings were backfilled. One boring (SB-21) was drilled in the location of the former underground tank. The other three borings were located westerly from the previous borings and wells.

The four soil borings drilled by Anderson were sampled and analyzed for TPHg and benzene, toluene, ethylbenzene and xylene (BTEX). Soil samples from 25.5 to 35.5 foot depths, and grab water samples were analyzed from borings SB-18, SB-19 and SB-20. Soil and water sample results for these three borings were consistently below detection limits (ND). SB-21 samples were analyzed from 28.5 to 29.5 foot depths. These samples each contained TPHg above 100 ppm and detectable levels of BTEX. Constituent concentrations increased with depth over this one foot distance. The highest ppm values measured were 550, 13, 64, 25, and 120 for TPHg and BTEX respectively.

4.3 Stockpiled Soil Sampling – 1997

Stockpiled soil resulting from the 1991 and 1992 excavation was stored on-site and occasionally turned by Beck Roofing personnel between 1992 and 1997. The estimated total volume of stockpiled soil was approximately 750 cubic yards. Soil contamination generally was not detected at depths less than 15 feet bgs, as stated above. Therefore, much of the excavated soil may have been clean overburden from above the contaminated soil layer.

The soils were sampled, analyzed and subsequently removed from the site in the fall of 1997 by Heilshorn Environmental Engineering (HE2). The analytical data for the stockpiled soil samples indicate very low or no detectable organic constituents associated with gasoline releases. The 1991 data show TPHg at 11 ppm, nondetectable BTEX, and no detectable organic lead. Organic lead is the chemical form of lead associated with gasoline (tetraethyl lead). The 1997 data show nondetectable levels of TPHg, BTEX and very low total lead levels (12 - 16 ppm). The soluble lead

concentration was presumed below the STLC (5 mg/L, approximately 5 ppm), which is often the disposal limit allowed by commercial disposal facilities. The stockpiled soils were removed from the site during October 1997 and used for fill material.

5.0 PREVIOUS SITE ENVIRONMENTAL ACTIVITIES — GROUNDWATER

Four groundwater monitoring wells were installed to determine groundwater quality and the extent of groundwater contamination. These wells have been sampled regularly since installation in 1991 and 1994. The data indicate decreasing concentrations of TPHg and BTEX compounds over time. Benzene concentrations in three of the four groundwater monitoring wells declined to nondetectable levels by September 1997.

5.1 Well Installation Information

The four monitoring wells were installed in phases. L&W Environmental Services installed three wells, during October 1991 (MW-1, MW-2 and MW-3). Anderson installed the fourth well during August 1994 (MW-4). L&W drilled MW-2 and MW-3 to 38 feet. MW-1 was drilled to 45.5 feet then grouted to 39 feet before installing the well screen. Groundwater was first encountered at 33 feet in MW-2 and MW-3 and at 30.5 feet in MW-1 (L&W, 1992). Anderson Consulting boring logs reported saturated soil at approximately 28 feet in MW-4. The depths listed are presumed feet below ground surface (bgs).

5.2 Groundwater Analytical Data 1991 To July 1999

Analytical data are available for monitoring wells MW-1, MW-2, and MW-3 from 1991 and monitoring well MW-4 from 1994. Appendix C, Tables C1 through C4, summarize the groundwater analytical data for MW-1 through MW-4, from 1991 through July 1999.

The initial well sampling for MW-1, MW-2 and MW-3 (11/4/91) resulted in nondetectable (ND) levels of TPHg, BTEX, and lead in samples from each well. The results were reported in parts per million (ppm) (L&W, 1992). Analytical results of the initial sampling for MW 4 on August 4, 1994, showed most constituents measured below the method detection limits. Toluene was detected at 0.5 parts per billion (ppb). MW-1, MW-2 samples collected during the August 4, 1994, sampling event showed ND levels of TPHg and BTEX. MW-3 August 1994 results indicated concentrations of 4.2 ppm TPHg, and 450, ND, 180 and 160 ppb, BTEX respectively.

The analytical results for the September 1997 groundwater data indicate low levels of gasoline related hydrocarbons (TPHg, BTEX) in MW-3 only. MW-1, MW-2 and MW-4 did not contain detectable levels of these compounds. None of the four wells contained detectable levels of MTBE in 1997. MW-3 groundwater sample contained TPHg at 2.7 parts per million (ppm), nondetectable MTBE, and benzene, toluene, xylenes and ethylbenzene at 160, 0.65, 93, and 26 ppb respectively. The levels detected in MW-3 are below the MCLs for toluene, ethylbenzene and xylenes. The benzene level is below the TCLP level of 500 ppb.

The wells were sampled on January 29, 1999 and the samples analyzed for oxygenated fuel additive in addition to TPHg and BTEX. MW-3 only contained 3.3 μg/L MTBE in January 1999. Measurable levels of other oxygenated fuel additives were not detected in any of the four samples. Appendix D includes the analytical reports and chain of custody forms for the January 1999 groundwater samples. Table D1 presents the analytical data for the January 1999 groundwater samples.

MW-3 was sampled and monitored in July 1999. Wells MW-1, MW-2, and MW-4 were not sampled because results were ND from 1997 to 1999. The January and July 1999 data for MW-3 show less than 1 ppm TPHg, 6.2 and 5.4 ppb benzene, nondetectable toluene, and less than 10 ppb of ethylbenzene or xylenes.

6.0 MONITORING WELL DESTRUCTION AND CLOSURE

Monitoring wells MW-1, MW-2 and MW-4 were closed and destroyed on November 11, 1999. Well destruction was pursuant to the EHS October 18,1999 letter and the permit issued by Alameda County Public Works Agency, Water Resources Section (PW). Appendix E contains the Alameda County PW permit and California Department of Water Resources Well Completion Report (DWR) forms for the well closures. Copies of the DWR forms were also mailed to PW and DWR.

The wells were destroyed by drilling out the entire depth of the well then backfilling with grout. An 8-inch hollow stem auger was used to drill out the well seal and packing. The well casing and screen were removed through the auger's hollow stem using drilling rods and discarded as non-hazardous waste. The resulting holes were then backfilled to grade using portland cement grout. Grout settling after the destruction date should be backfilled with gravel, placed and rolled by on-site equipment.

7.0 CURRENT SITE INVESTIGATION – FIELDWORK

The current site investigation included soil and grab groundwater sample collection from four locations around the former underground fuel tank site as shown on Figure 5. The purpose of the investigation was to collect sufficient data to estimate the vertical and lateral extent of contamination in soil and groundwater beneath the Beck Roofing site. HE2 obtained the required permits from Alameda County prior to performing the fieldwork.

7.1 Soil Boring and Sampling

Soil borings G1 through G4, were advanced to 35 feet bgs on November 8, 1999. HEW Drilling advanced the borings using a CME 75 drill rig and hollow stem augers. HE2 collected soil samples for possible analysis at approximately 15, 20, 25, 30 and 35 feet bgs. Holes were drilled to 35 feet bgs to facilitate groundwater sample collection.

Soil samples were collected in clean 2-inch diameter 6-inch long brass sample liners (rings). The clean rings were place into a split spoon sampler and pounded into the undisturbed soil below the auger through the auger hollow stem. Soil sample rings were capped with Teflon sheeting and plastic caps, sealed with clear tape and labeled. Soils were logged from soil sample observations. Blow counts required to pound the sampler into the soil were recorded on the boring logs. Appendix F contains the soil boring logs for borings G1, G2, G3, and G4.

7.2 Groundwater Sampling Procedures

Groundwater grab samples were collected using new clean bailers. Bailed groundwater was discharged from the bailer into 40 ml VOA (volatile organic analysis) vials with Teflon septa. The vials were cleaned and prepared by the laboratory. The vials were sealed so that no air bubbles were trapped in the vials (zero headspace). The samples were then labeled, packaged to minimize breakage, and stored in a cooler with ice.

Grab samples differ from monitoring well samples in that they are not considered representative of general aquifer conditions. A monitoring well contains a casing screen and well packing outside the casing screen to filter sediments while allowing groundwater to flow through the well. A grab sample is a "plug" of groundwater pulled or "grabbed" at an isolated time and location in the aquifer. High sediment levels, often found in grab groundwater samples, may cause interference in analytical procedures causing less accurate results.

7.3 Sample Handling Procedures and Analyses Requested

Soil and groundwater samples were labeled, sealed, and stored prior to delivery to the laboratory. Labels included the project identification, sample location, date and time of collection, sampler's initials, and the analyses requested. Samples were stored in a cooler with ice until delivered to the laboratory. HE2 delivered the samples to the laboratory the day after collection, November 9, 1999.

Analyses were performed in accordance with the Workplan prepared by HE2 and accepted by EHS per the Brown and Sullivan letter dated October 19, 1999 (See Appendix A). Soil samples from 25, 30 and 35 feet bgs were analyzed from borings G2, G3, and G4. G1, the former excavation/tank area, contained pea gravel from just below 20 feet to between 30 and 35 feet. Samples from 20 and 35 feet bgs were analyzed from boring G1. The soil and groundwater samples were analyzed for total petroleum hydrocarbons-gasoline (TPHg), benzene, ethylbenzene, toluene, xylenes (BTEX), and methyl tert butyl ether (MTBE). McCampbell Analytical Laboratories in Pacheco, CA, a state certified laboratory (DHS Certification No. 1644) performed the analyses. A chain of custody form accompanied the samples to the laboratory. Appendix G includes the laboratory analysis sheets and chain of custody forms for the November 1999 samples.

8.0 ANALYTICAL RESULTS, NOVEMBER 1999

The analytical results show a limited extent of contamination in the subsurface at the Beck Roofing site. The following subsections present the soil and groundwater analytical results for the November 1999 subsurface investigation.

8.1 Soil Analytical Results

Soil values were near or below detection limits. Detectable TPHg or BTEX concentrations were measured in Borings G1 (20 feet bgs), G2 (25 and 30 feet bgs) and G3 (30 feet bgs) only. These compounds were not detected in Boring G4 or at other depths in borings G1, G2 and G3. Table 1 lists the November 1999 soil analytical results.

TPHg and benzene were measured at low concentrations, in samples collected at 25 and/or 30 feet in borings G2 and G3. Levels just above the detection limit were observed in the G1 20-foot sample. Other BTEX compounds were also measured in these samples, but MTBE was not detected in any analyzed soil sample. The highest concentrations were measured in sample G2-25 with TPHg at 58 milligrams per kilogram of soil (mg/kg) and benzene at 0.12 mg/kg.

8.2 Groundwater Analytical Results

TPHg and BTEX compounds were detected in grab groundwater samples G1, G2 and G3. MTBE was not detected above the reporting limit. Table 2 presents the groundwater data for the November 1999 samples The G4 water samples did not contain detectable levels of any analyzed constituent.

The MTBE reporting limit is elevated in the G2 and G3 samples because of interference between MTBE and high levels of TPHg. The chromatogram peaks for MTBE elute, or come off, the chromatograph column at about the same time as the chromatogram peaks for gasoline. It is difficult to differentiate MTBE from TPHg at higher TPHg concentrations.

9.0 FINDINGS OF SUBSURFACE INVESTIGATION

Detectable levels of TPHg and benzene were observed, but at limited and low levels in soil and groundwater. Soil concentrations were at or near detection limits. Groundwater samples with detectable levels of benzene were observed in a limited area.

The soil plume extends laterally from the former tank location to just beyond G3. The plume vertical extent is limited to about 20 feet bgs at G1, between about 25 and 30 feet at G2, and to about 30 feet bgs at G3. Figure 6 graphically estimates the extent of the soil benzene plume.

Groundwater benzene contamination centers on the former underground tank area. Figure 7 shows the assumed extent of groundwater contamination for benzene, based on data collected in July and November 1999. The plume is limited laterally as shown by nondetect results in the borings or previous well water samples. The plume does not extend to boring G4, or former wells MW-1, MW-2 or MW-4. The plume extends west to southwest, following the general groundwater flow direction. The plume does not extend under the building based on this evaluation.

10.0 LIMITATIONS

The data, conclusions and recommendations presented in this report were developed in accordance with the generally accepted professional practice. The guidelines, data, conclusions and recommendations developed in, and used for, this report follows California Regional Water Quality Control Board guidelines. The analytical results are based on samples collected as limited locations, at limited times. Therefore, Heilshorn Environmental Engineering cannot have full knowledge of the soil or underlying conditions at the site. Conditions at the site may change with time due to human action or acts of nature. Thus, the findings of this report are subject to change should new information arise.

TABLE 1 SOIL ANALYTICAL DATA – NOVEMBER 1999

Boring Location	Depth Ft,bgs	TPHg	MTBE	Benzene	Toluene	Ethyl-benzene	Xylenes
G1	20	10 g	ND	0.007	0.014	0.068	0.039
	35	ND	ND	ND	ND	ND	ND
G2	20	ND	ND	ND	ND	ND	ND
	25	58 b	ND<0.10	0.12	0.075	1.0	2.0
	30	7.9 a	ND	0.023	0.010	0.060	0.10
	35	ND	ND	ND	ND	0.008	0.009
G3	25	ND	ND	ND	ND	ND	ND
	30	22 b,j	ND	0.063	ND	0.32	0.12
	35	ND	ND	ND	ND	ND	ND
G4	25	ND	ND	ND	ND	ND	ND
	30	ND	ND	ND	ND	ND	ND
	35	ND	ND	ND	ND	ND	ND

Units - mg/kg

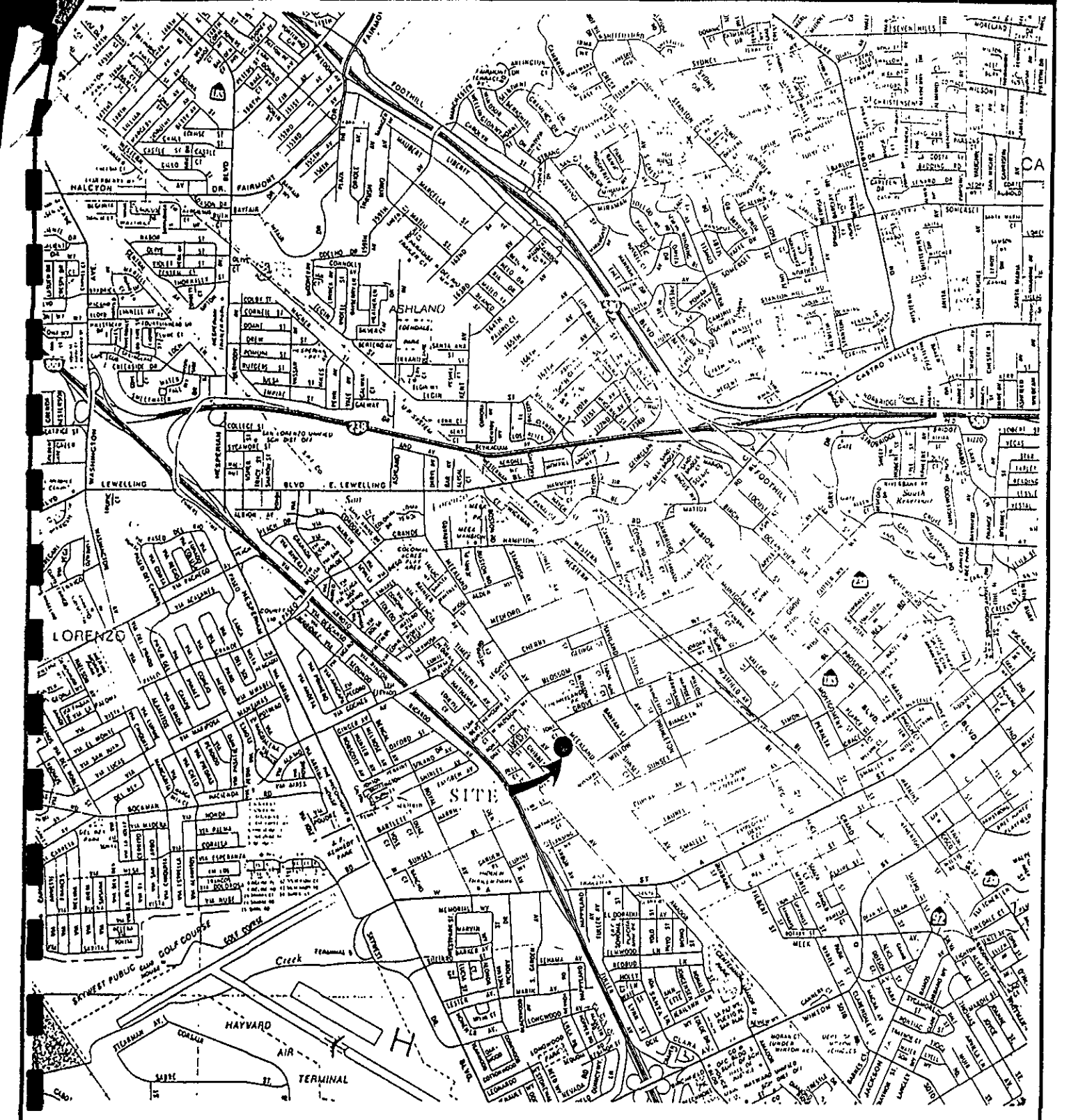
Notes:
Descriptive footnotes from laboratory sheets regarding TPHg chromatograms
(a) unmodified or weakly modified gasoline is significant
(b) heavier gasoline range compounds are significant (aged gasoline?)
(g) strongly aged gasoline or diesel range compounds are significant
(j) no recognizable pattern

TABLE 2 GROUNDWATER ANALYTICAL RESULTS NOVEMBER 1999

Boring	TPHg µg/L	MtBE µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Total Xylenes µg/L
G1	15,000	ND	810	17	1400	630
G2	34000	ND<300	780	ND<4	2200	2400
G3	10,000	ND<100	110	1.9	370	51
G4	ND	ND	ND	ND	ND	ND
MCL, µg/L	None	5	1	150	700	1,750

G PAB Sample

FIGURES



Source: CSAA Map of Hayward, San Leandro, Union City, 3/92

Beck Roofing, Hayward, CA Soil Sampling

FIGURE 1 Site Location

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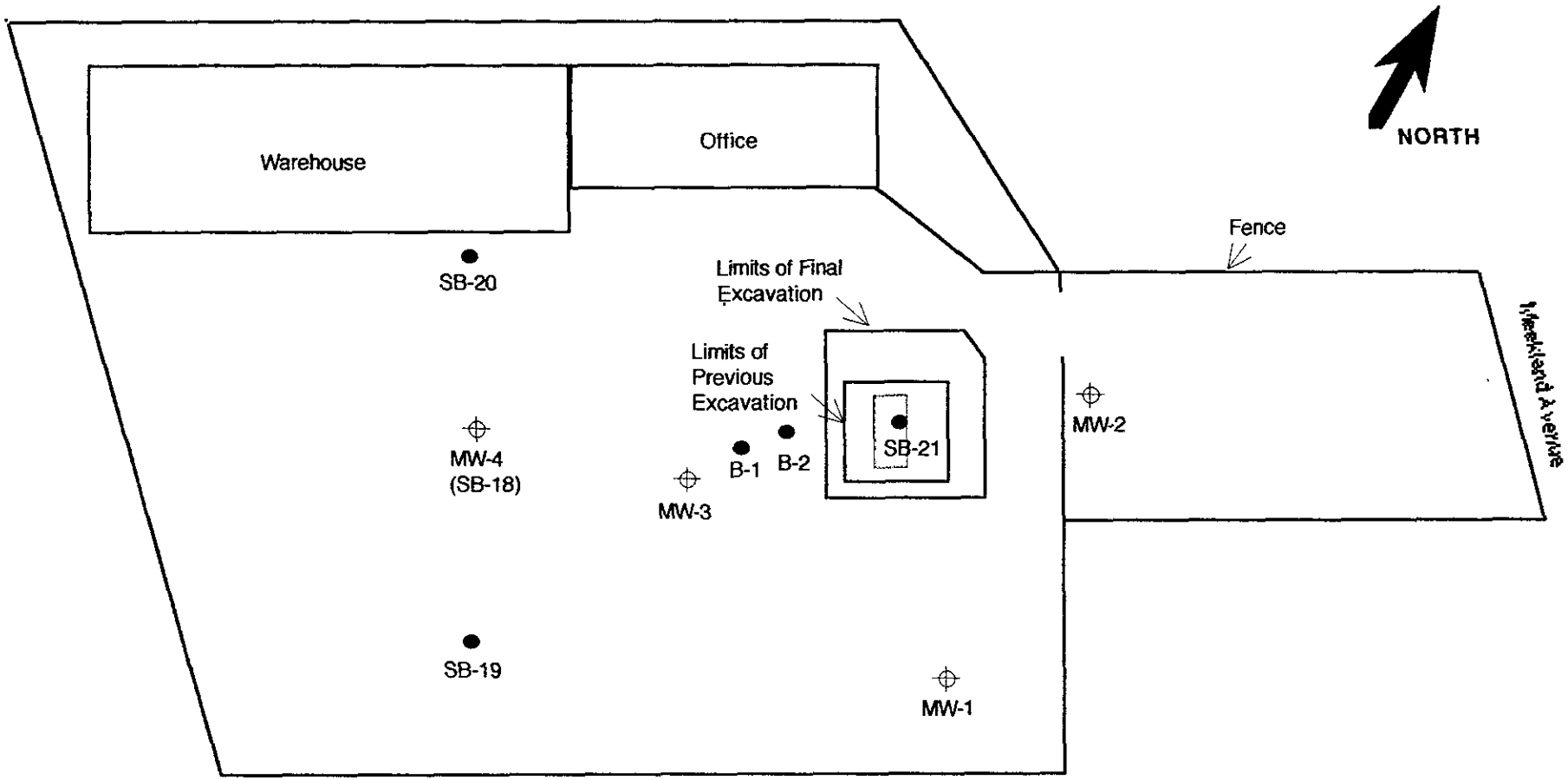
Rev. 0
Date: 10/6/97



LEGEND

- Former Underground Tank Location
- Monitoring Well
- Soil Borings

Beck Roofing Company, Hayward, CA

FIGURE 2 Site Plan Pre 1999

Source: Adapted from Lush Geosciences, Inc., Quarterly Monitoring Report, Figure 2, March 8, 1997

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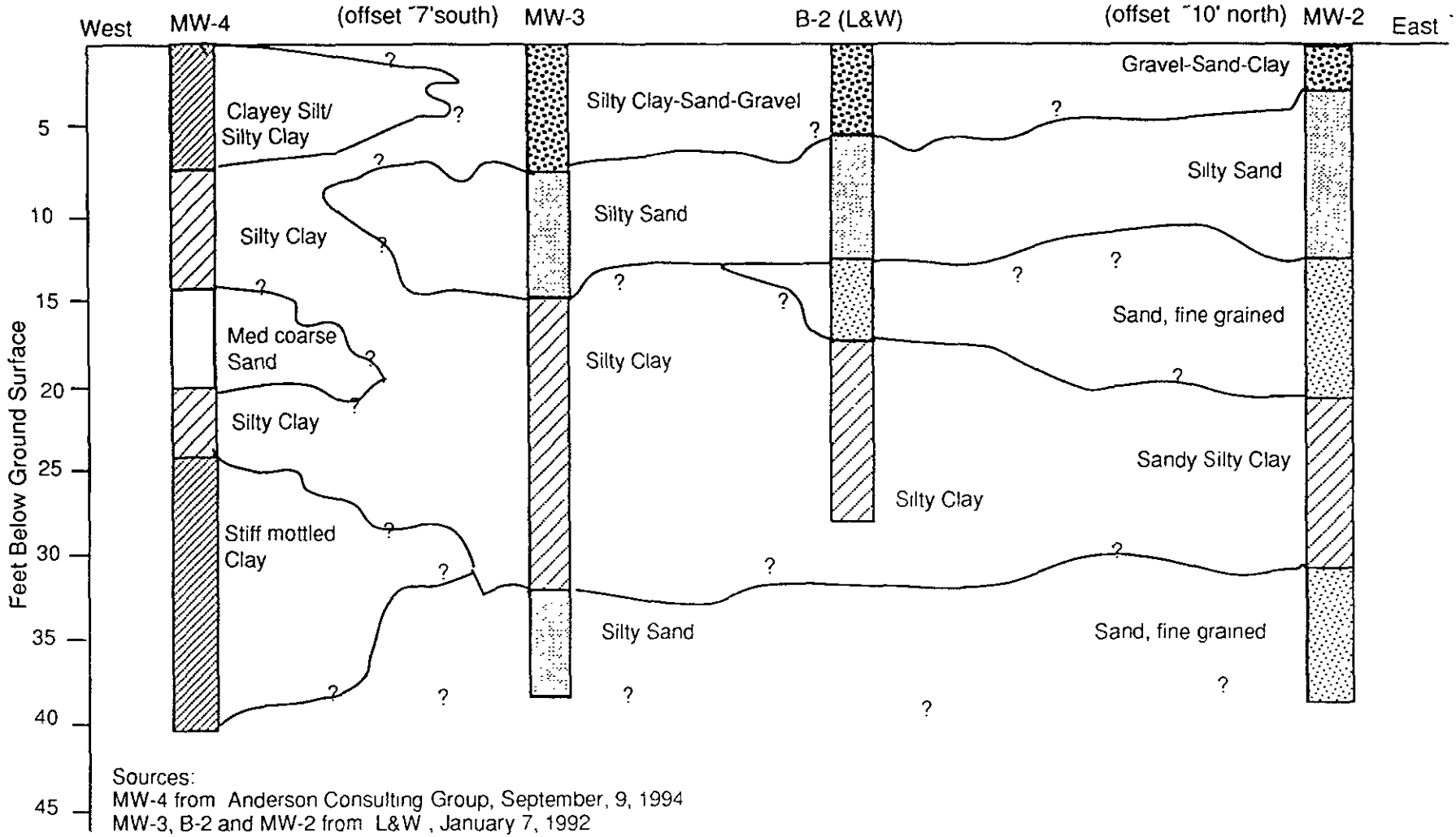
Rev. 3
Date: 11/29/99



Sources:
MW-4 from Anderson Consulting Group, September, 9, 1994
MW-3, B-2 and MW-2 from L&W , January 7, 1992

Beck Roofing, Hayward, CA

FIGURE 3 East - West Subsurface Cross -Section

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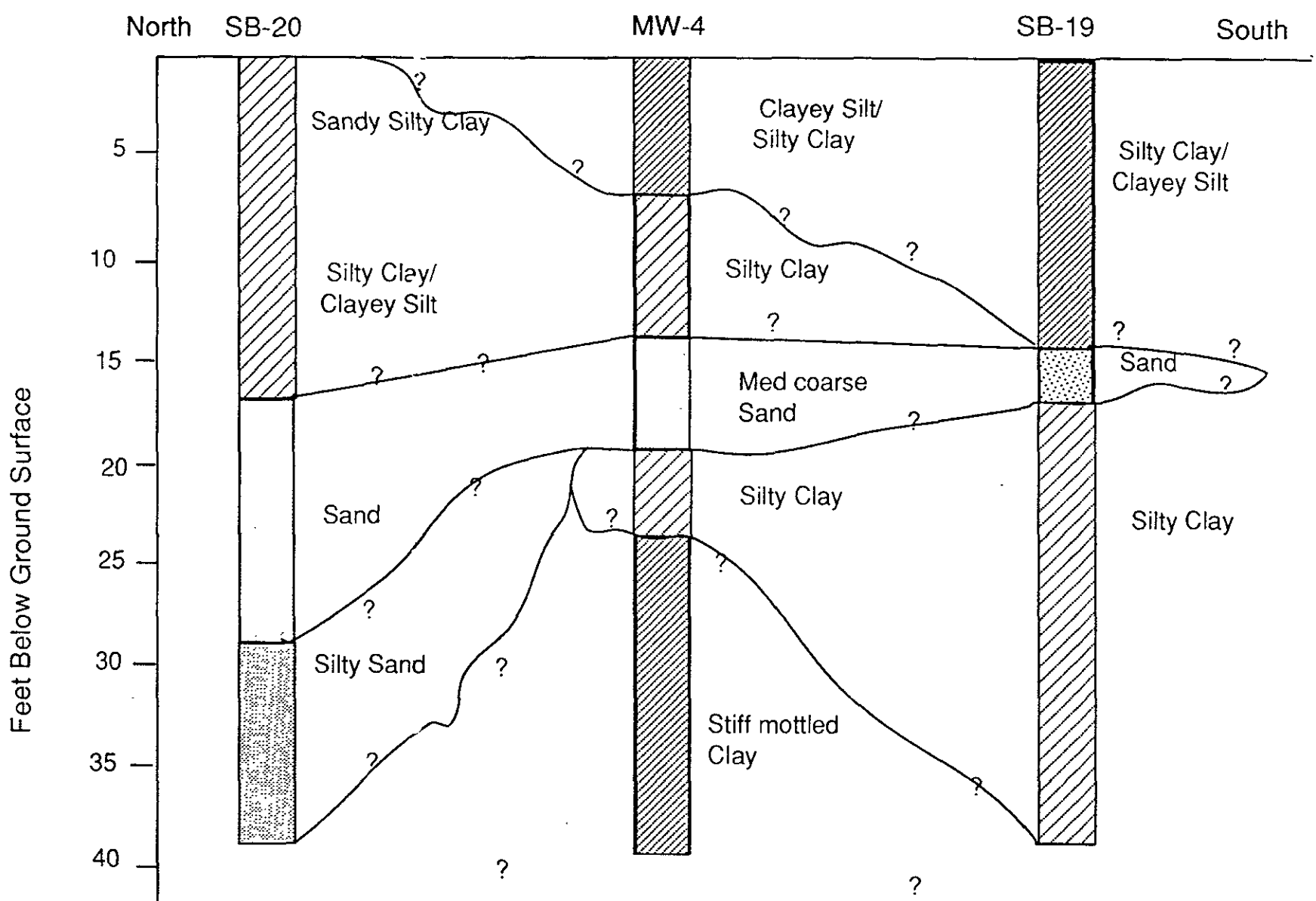
Date: 11/14/97



Source:
Anderson Consulting Group,
September 9, 1994

Beck Roofing, Hayward, CA

FIGURE 4 North -S outh Subsurface Cross -Section

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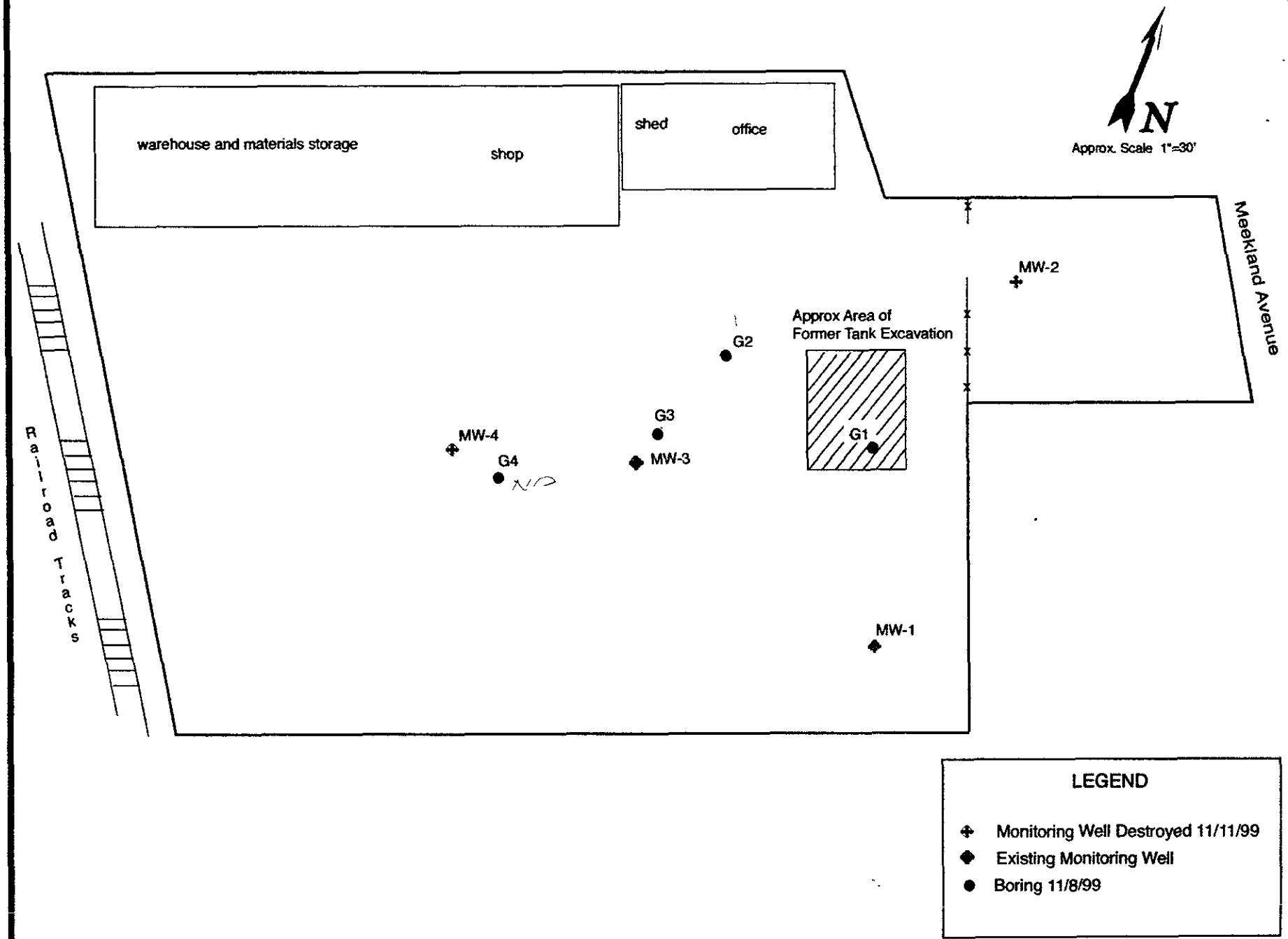
Date: 11/14/97



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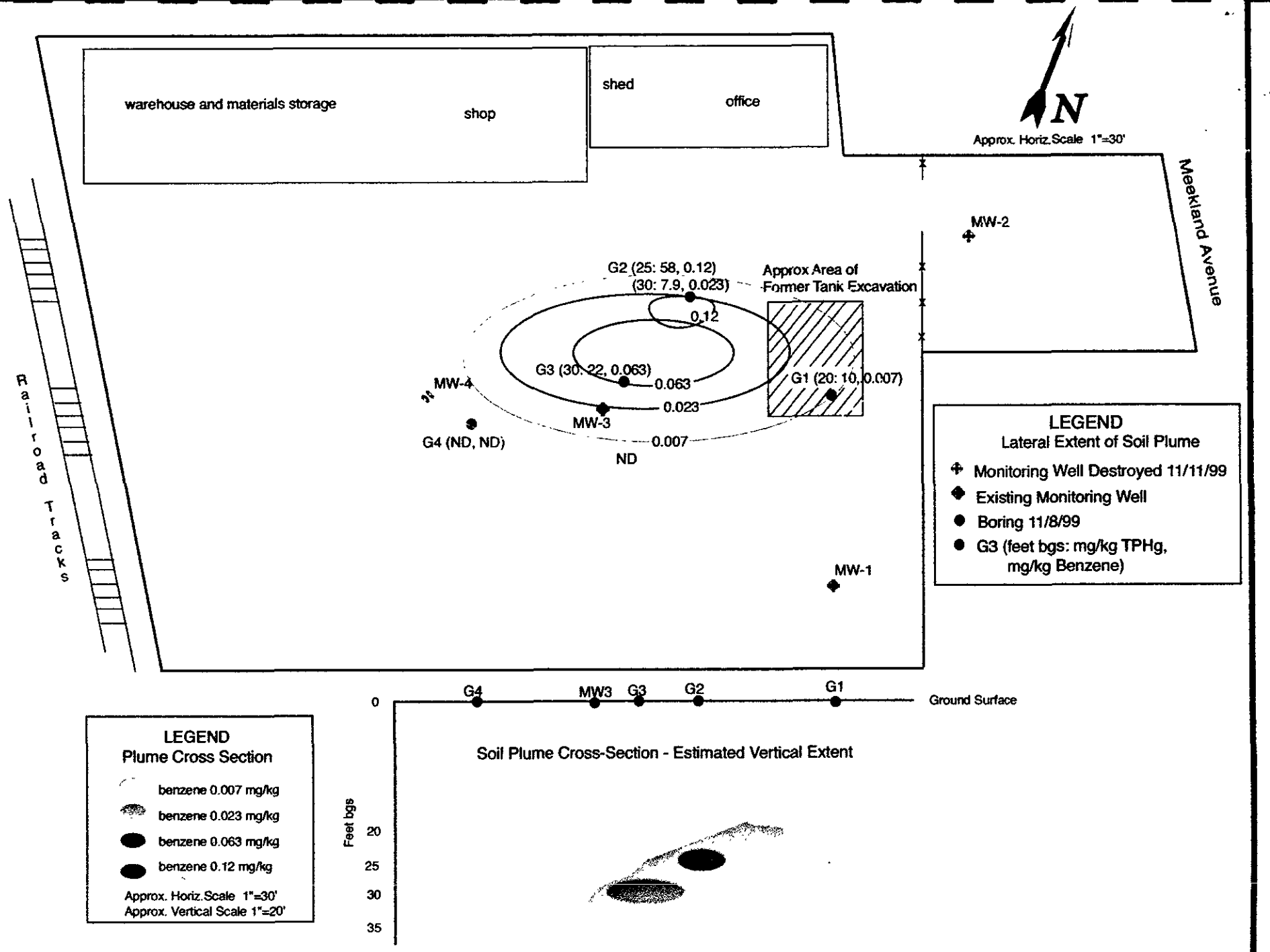
BECK ROOFING COMPANY

Figure 5 Site Plan November 1999

11/23/99
R1



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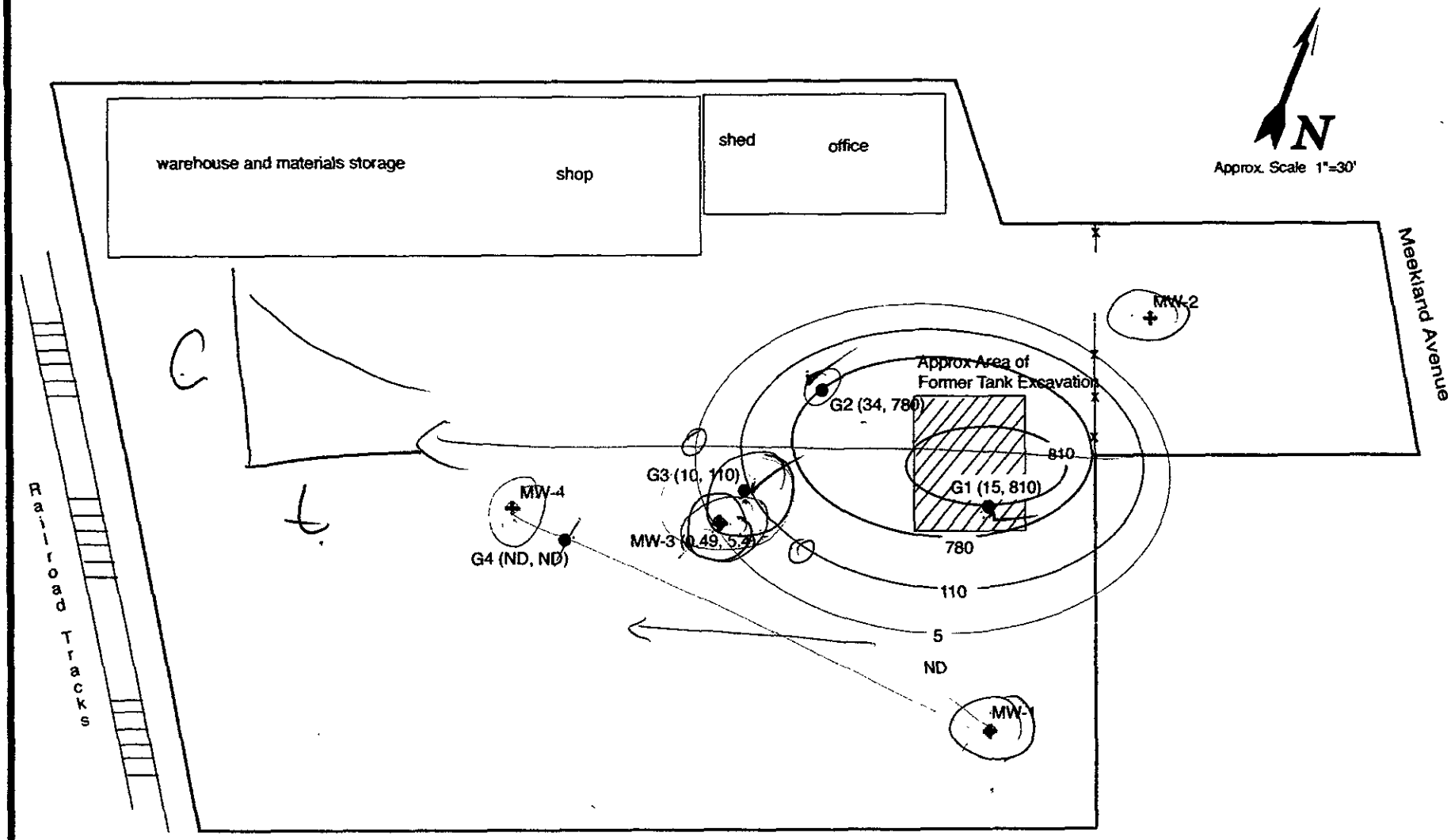
BECK ROOFING COMPANY
Figure 6 November 1999 Soil Benzene Plume

11/29/99
R1



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BECK ROOFING COMPANY

Figure 7 November 1999 Groundwater Benzene Plume

11/23/99
R1

APPENDICES

A Brown and Sullivan October 19, 1999 Letter to Mr. Amir Gholami, Alameda County EHS

B Soil Data 1991- 1994

C Groundwater Data 1991 to July 1999

D January 1999 Groundwater Analytical Reports, Chain of Custody and Data Table

E DWR Well Completion Form and Permits for Soil Borings and Well Destruction

F November 1999 Boring Logs

G November 1999 Analytical Reports, Chain of Custody

APPENDIX A

Brown and Sullivan October 19, 1999 Letter to Mr. Amir Gholami, Alameda County EHS

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October 19, 1999

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Amir K. Gholami, REHS
Hazardous Materials Specialist
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1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

STID 3030

Re: *Beck Roofing Company, 21123 Meekland Avenue, Hayward, CA*

Dear Mr. Gholami:

This firm is handling Beck Roofing Company's claim with the Underground Storage Tank Cleanup Fund ("Fund").

We are in receipt of a copy of your October 4, 1999 letter to the Becks regarding Heilshorn Environmental's Work Plan dated August 23, 1999 and Ms. Heilshorn's response thereto dated October 15, 1999. Since we must submit a cost proposal to the Fund and obtain the Fund's pre-approval to perform the work, please confirm by executing on the signature line hereinbelow that the modifications outlined in Ms. Heilshorn's October 15th letter to you are acceptable. As soon as you facsimile your approval to our office, we can submit the matter to the Fund. We can not do any work until we obtain the Fund's approval.

In addition, please copy this office in your future correspondence regarding this property.

Thank you for your prompt attention.

Very truly yours,

MICHAEL S. BROWN

AMIR K. GHOLAMI, REHS
Alameda County Health Care Services

MSB/em
cc: Beck Roofing Company
Heilshorn Environmental Engineering

OCT-19-1999 18:43

TABLE B1 SUMMARY OF SOIL DATA – TANK REMOVAL AND OVER EXCAVATION PITS

Date	Location	Depth Ft,bgs	TPHg mg/kg	Benzene µg/kg	Toluene µg/kg	Ethyl-benzene µg/kg	Xylenes µg/kg	Lead mg/kg
Tank	Removal	Pit	Sidewall	Samples	(Blaine	L&W, 92)		(Organic)
5/20/91	Tank pit fill end	8	1,300	6400	7700	0800	230000	0.22
	Tank pit opposite fill end	7.5	1800	5800	75000	33000	210000	0.66
Tank Pit	Over Excavation	Sidewal l	Samples	(L&W,	92)			(Total)
11/91	North wall	15	1.5	0008	50	16	210	
	North wall	16	4200	6300	240000	1000000	550000	11
	North wall	17	2740	16000	240000	120000	650000	ND
	Floor, center	16	780	0830	1500	6300	48000	NT
	Center Floor	17	5760	30000	450000	230000	1270000	7.25
	Center floor	18	6800	4000	440000	140000	770000	12.2
	South wall	15	ND	11	71	15	87	8.3
	South wall	16	3200	1800	100000	60000	350000	8.4
	South wall	17	720	400	13000	8400	90000	9.35
	East wall	14	170	ND	2700	1500	10000	NT
	East Wall	16	1.2	ND	40	8	48	ND
	West Wall	16	1.0	ND	9	ND	29	4.0

Notes:
BTEX units mg/kg (original analyses in mg/kg)
TPHg and lead units, mg/kg
ND Not detected above method detection limit
NT Not tested

TABLE B1 SUMMARY OF SOIL DATA – TANK REMOVAL AND OVER EXCAVATION PITS (continued)

Date	Location	Depth Ft,bgs	TPHg mg/kg	Benzene mg/kg	Toluene mg/kg	Ethyl-benzene mg/kg	Xylenes mg/kg	Lead mg/kg
Tank	Overexcavation	Sidewall	Confirm'n	Samples	(Lusch Geo	,94)		(Not analyzed)
11/94	SW-1	30.0*	32	0.52	0.93	0.52	1.6	
	SW-2	25.0	82	0.43	3.2	1.5	4.5	
	SW-3	25.0	320	1.5	6.7	4.6	15	
	SW-4	30.0*	2.4	0.17	0.50	0.11	0.38	
	SW-5	25.0	28	0.14	0.91	0.37	1.3	
	SW-6	31.0	740	5.7	18	7.1	22	
	SW-7	25.0	3600	0.26	160	72	220	
	SW-8	31.0*	30	<0.005	2.8	0.76	2.2	
	SW-9	25.0	<1.0	<0.005	<0.005	<0.005	<0.005	
	B-10	31.0*	<1.0	<0.005	0.013	0.006	0.027	
	SW-11	18.0	<1.0	<0.005	<0.005	<0.005	<0.005	
	SW-12	18.0	<1.0	<0.005	<0.005	<0.005	<0.005	
	SW-13	18.0	<1.0	<0.005	<0.005	<0.005	<0.005	

Notes:

Results in parts per million (milligrams per kilogram)

* = Samples collected at bottom of the excavation

TABLE B2 SUMMARY OF SOIL DATA – SOIL AND MONITORING WELL BORINGS

Date	Location	Depth Ft, bgs	TPHg ppm	Benzene ppb	Toluene ppb	Ethyl-benzene ppb	Xylenes ppb	Lead ppm
Soil	Boring Samples	(L&W, 92)						Total
10/91	MW-1	5	ND	ND	16	ND	14	ND
		10	ND	ND	10	ND	7	ND
		15	ND	ND	13	ND	7	ND
		20	ND	ND	10	ND	6	ND
		25	ND	ND	24	ND	7	ND
		30	ND	ND	11	ND	6	5.00
		35	ND	ND	10	ND	6	5.50
		40	ND	ND	16	ND	6	ND
		45	ND	ND	15	ND	6	4.3
10/91	MW-2	5	ND	ND	ND	ND	ND	ND
		10	ND	ND	ND	ND	ND	ND
		15	ND	ND	ND	ND	ND	ND
		20	ND	ND	ND	ND	ND	5.90
		25	1.4	100	85	14	90	ND
		30	ND	44	8	ND	ND	ND
		35	ND	6	ND	ND	ND	4.20
10/91	B-1	5	ND	ND	17	ND	ND	ND
		10	ND	ND	11	ND	ND	ND
		15	ND	ND	12	ND	ND	ND
		20	5.7	250	600	100	570	5.82
		25	8.8	140	600	126	760	4.20
	B-2	5	ND	ND	18	ND	ND	ND
		10	ND	ND	13	ND	6	4.00
		15	ND	ND	6	ND	ND	ND
		20	ND	46	11	14	40	ND
		25	35	440	1200	320	1800	ND
		30	36	270	87	37	2.1	ND

TABLE B2 SUMMARY OF SOIL DATA – SOIL AND MONITORING WELL BORINGS (continued)

Date	Location	Depth Ft,bgs	TPHg	Benzene	Toluene	Ethyl-benzene	Xylenes	Lead
Soil	Boring Samples	(L&W,	92)					Total
	MW-3	5	1	ND	18	ND	ND	ND
		10	ND	ND	ND	ND	ND	3.60
		15	ND	ND	28	ND	ND	3.60
		20	2.9	21	17	6	25	5.80
		25	6.2	48	22	12	56	ND
		30	9.8	250	15	48	260	3.90
		35	ND	ND	14	ND	ND	3.75
Soil	Boring Samples	(Anderso n	94)					
7/94	SB18 (MW-4)	25.5-35.5	ND	ND	ND	ND	ND	NA
	SB19 North of MW4	25.5-35.5	ND	ND	ND	ND	ND	NA
	SB20 South of MW-4	25.5-35.5	ND	ND	ND	ND	ND	NA
	SB21 (within the excavation area)	28.5	180	2200	8700	4800	22000	NA
	SB21 (within the excavation area)	29.0	430	11000	42000	14000	69000	NA
	SB21 (within the excavation area)	29.5	550	13000	64000	25000	120000	NA

Notes:
BTEX units µg/kg (original analyses in mg/kg)
TPHg and lead units, mg/kg
ND Not detected above method detection limit
NA Not analyzed

APPENDIX C

Groundwater Data
1991- July 1999

TABLE C1 GROUNDWATER ANALYTICAL RESULTS for MW-1

Date	TPHg mg/L	MtBE µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Total Xylenes µg/L
11/4/91	ND	NA	ND	ND	ND	ND
12/23/91	ND	NA	ND	ND	ND	ND
2/24/92	0.09	NA	0.4	1	ND	ND
6/16/92	ND	NA	0.5	ND	ND	ND
9/9/92	ND	NA	ND	ND	ND	ND
7/16/93	ND	NA	ND	ND	ND	ND
8/4/94	ND	NA	ND	ND	ND	ND
10/25/94	ND	NA	ND	ND	ND	ND
1/20/95	ND	NA	ND	ND	ND	ND
4/11/95	ND	NA	ND	ND	ND	ND
7/13/95	WELL	INACCESSIBLE				
10/10/95	ND	NA	ND	ND	ND	ND
1/11/96	ND	NA	ND	ND	ND	1.2
4/23/96	0.53	NA	ND	0.64	ND	0.82
7/30/96	ND	NA	1.3	2.1	0.64	3.0
11/5/96	0.139	NA	2.2	7.3	2.2	23.1
2/7/97	0.081	NA	2.0	3.9	2.3	9.2
9/19/97	ND	ND	ND	ND	ND	ND
1/29/99	ND	ND	ND	ND	ND	ND
11/1/99	WELL	DESTROYED				
MCL, µg/L	None		1 (TCLP = 500)	150	700	1,750

Notes:

ND = less than laboratory minimum detection limits, 1994-2/97 limits are <0.05 mg/L - TPHg, and <0.3 µg/L - BTEX (<0.5 for xylene on 8/4/94) for tables 2-1 through 2-4.

NA = Not analyzed

mg/L = milligram of compound per liter of liquid matrix (usually water). Roughly equivalent to parts per million.

µg/L = microgram of compound per liter of liquid matrix (usually water). Roughly equivalent to parts per billion.

MCL = Maximum Contaminant Limit for public drinking water supplies, California Code of Regulations (CCR), Title 22 section 64444.

TCLP = Toxicity Characteristic Limit per CCR Title 22 Section 66261.24. TCLP values are used to determine the level of a constituent which renders a waste hazardous under federal and state laws.

TABLE C2 GROUNDWATER ANALYTICAL RESULTS for MW-2

Date	TPHg mg/L	MtBE µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Total Xylenes µg/L
11/4/91	ND	NA	ND	ND	ND	ND
12/23/91	ND	NA	ND	ND	ND	ND
2/24/92	0.33	NA	110	2	ND	0.9
6/16/92	ND	NA	7.7	ND	ND	ND
9/9/92	ND	NA	2.8	ND	ND	ND
7/16/93	ND	NA	2.0	ND	ND	ND
8/4/94	ND	NA	ND	ND	ND	ND
10/25/94	ND	NA	ND	ND	ND	ND
1/20/95	ND	NA	1.0	ND	ND	ND
4/11/95	ND	NA	1.2	ND	ND	ND
7/13/95	ND	NA	ND	ND	ND	ND
10/10/95	ND	NA	0.69	ND	ND	52
1/11/96	ND	NA	ND	ND	ND	0.67
4/23/96	0.039	NA	0.29	0.68	ND	0.66
7/30/96	ND	NA	3.4	5.6	1.7	9.3
11/5/96	0.292	NA	9.3	29.3	5.7	57
2/7/97	0.092	NA	2.8	5.0	3.7	9.4
9/19/97	ND	ND	ND	ND	ND	ND
1/29/99	ND	ND	ND	ND	ND	ND
11/11/99	WELL DESTROYED					
MCL, µg/L	None		1 (TCLP = 500)	150	700	1,750

Notes:

ND = less than laboratory minimum detection limits, 1994-2/97 limits are <0.05 mg/L - TPHg, and <0.3 µg/L - BTEX (<0.5 for xylene on 8/4/94) for tables 2-1 through 2-4.

NA = Not analyzed

mg/L = milligram of compound per liter of liquid matrix (usually water). Roughly equivalent to parts per million.

µg/L = microgram of compound per liter of liquid matrix (usually water). Roughly equivalent to parts per billion.

MCL = Maximum Contaminant Limit for public drinking water supplies, California Code of Regulations (CCR), Title 22 section 64444.

TCLP = Toxicity Characteristic Limit per CCR Title 22 Section 66261.24. TCLP values are used to determine the level of a constituent which renders a waste hazardous under federal and state laws.

TABLE C3 GROUNDWATER ANALYTICAL RESULTS for MW-3

Date	TPHg mg/L	MTBE µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Total Xylenes µg/L
11/4/91	ND	NA	ND	ND	ND	ND
12/23/91	0.15	NA	60	0.5	0.6	9.7
2/24/92	4.36	NA	710	16	69	400
6/16/92	4.9	NA	770	ND	61	240
9/9/92	7.4	NA	1,200	7.7	95	170
7/16/93	7.9	NA	1,500	11	340	840
8/4/94	4.2	NA	450	ND	180	160
10/25/94	ND	NA	ND	ND	ND	ND
1/20/95	4.4	NA	580	2	130	160
4/11/95	1.8	NA	88	1.4	33	27
7/13/95	3.4	NA	500	ND	130	94
10/10/95	4.2	NA	360	2.4	190	96
1/11/96	ND	NA	ND	ND	ND	ND
4/23/96	0.079	NA	1.2	0.33	0.45	0.48
7/30/96	3.8	NA	240	8.2	14	9.1
11/5/96	3.09	NA	242	36	70	116
2/7/97	0.473	NA	36.3	1	10.7	8.9
9/19/97	2.7	ND	160	0.65	93	26
1/29/99	0.230	ND	6.2	ND	7.3	ND
7/21/99	0.490	ND	5.4	ND	9.6	0.60
MCL, µg/L	None		1 (TCLP = 500)	150	700	1,750

Notes:

ND = less than laboratory minimum detection limits, 1994-2/97 limits are <0.05 mg/L - TPHg, and <0.3 µg/L - BTEX (<0.5 for xylene on 8/4/94) for tables 2-1 through 2-4.

NA = Not analyzed

mg/L = milligram of compound per liter of liquid matrix (usually water). Roughly equivalent to parts per million.

µg/L = microgram of compound per liter of liquid matrix (usually water). Roughly equivalent to parts per billion.

MCL = Maximum Contaminant Limit for public drinking water supplies, California Code of Regulations (CCR), Title 22 section 64444.

TCLP = Toxicity Characteristic Limit per CCR Title 22 Section 66261.24. TCLP values are used to determine the level of a constituent which renders a waste hazardous under federal and state laws.

TABLE C4 GROUNDWATER ANALYTICAL RESULTS for MW-4

Date	TPHg mg/L	MtBE µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Total Xylenes µg/L
8/4/94	ND	NA	ND	ND	ND	ND
10/25/94	ND	NA	ND	ND	ND	ND
1/20/95	ND	NA	ND	ND	ND	ND
4/11/95	ND	NA	ND	ND	ND	ND
7/13/95	ND	NA	ND	ND	ND	ND
10/10/95	ND	NA	ND	ND	ND	ND
1/11/96	ND	NA	2.1	4	ND	0.79
4/23/96	0.043	NA	0.42	1.1	0.39	0.79
7/30/96	ND	NA	0.97	1.7	0.67	3
11/5/96	0.0901	NA	1.3	2.7	1.8	7.5
2/7/97	0.072	NA	1.3	2.7	1.8	7.5
9/19/97	ND	ND	ND	ND	ND	ND
1/29/99	ND	ND	ND	ND	ND	ND
10/11/99	WELL DESTROYED					
MCL, µg/L	None		1 (TCLP = 500)	150	700	1,750

Notes:

ND = less than laboratory minimum detection limits, 1994-2/97 limits are <0.05 mg/L - TPHg, and <0.3 µg/L - BTEX (<0.5 for xylene on 8/4/94) for tables 2-1 through 2-4.

NA = Not analyzed

mg/L = milligram of compound per liter of liquid matrix (usually water). Roughly equivalent to parts per million.

µg/L = microgram of compound per liter of liquid matrix (usually water). Roughly equivalent to parts per billion.

MCL = Maximum Contaminant Limit for public drinking water supplies, California Code of Regulations (CCR), Title 22 section 64444.

TCLP = Toxicity Characteristic Limit per CCR Title 22 Section 66261.24. TCLP values are used to determine the level of a constituent which renders a waste hazardous under federal and state laws.

APPENDIX D

January 1999 Analytical Reports, Chain of Custody and Data Table

TABLE D1 JANUARY 1999 GROUNDWATER ANALYTICAL REPORTS

Constituent Analyzed	MW-1	MW-2	MW-3	MW-4	Reporting Limit, µg/L
TPHg	ND	ND	230	ND	50
Benzene	ND	ND	6.2	ND	0.5
Toluene	ND	ND	ND	ND	0.5
Ethylbenzene	ND	ND	7.3	ND	0.5
Xylenes	ND	ND	ND	ND	0.5
Di-isopropyl Ether (DIPE)	ND	ND	ND	ND	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	ND	ND	ND	1.0
Methyl tert-Butyl Ether (MTBE)	ND	ND	3.3	ND	1.0
tert-Amy Methyl Ether (TAME)	ND	ND	ND	ND	1.0
tert Butanol	ND	ND	ND	ND	5.0
Ethlyene Dibromide (EDB)	ND	ND	ND	ND	1.0
1,2-Dichloroethane (1,2-DCA) also called Ethylene Dichloride (EDC)	ND	ND	11	ND	1.0

Units: µg/L

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

Heilshorn Environmental Eng.	Client Project ID: Beck Roofing	Date Sampled: 01/29/99
P.O. Box 20546		Date Received: 01/29/99
El Sobrante, CA 94820	Client Contact: Elyse Heilshorn	Date Extracted: 02/01/99
	Client P.O:	Date Analyzed: 02/01/99

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 GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g)+	MTBE	Benzene	Toluene	Ethylben-zene	Xylenes	% Recovery Surrogate
02564	MW1	W	ND	ND	ND	ND	ND	ND	107
02565	MW2	W	ND	ND	ND	ND	ND	ND	108
02566	MW3	W	230,a	ND	6.2	ND	7.3	ND	110
02567	MW4	W	ND	ND	ND	ND	ND	ND	111
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.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 Second Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
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Heilshorn Environmental Eng. P.O. Box 20546 El Sobrante, CA 94820	Client Project ID: Beck Roofing	Date Sampled: 01/29/99
		Date Received: 01/29/99
	Client Contact: Elyse Heilshorn	Date Extracted: 02/01-02/03/99
	Client P.O:	Date Analyzed: 02/01-02/03/99

Ethylene Dibromide (1,2-Dibromoethane) & Ethylene Dichloride (1,2-Dichloroethane)
EPA method 8260

Lab ID	Client ID	Matrix	EDB*	1,2-DCA (EDC)*	% Recovery Surrogate
02564	MW1	W	ND	ND	100
02565	MW2	W	ND	ND	98
02566	MW3	W	ND	11	103
02567	MW4	W	ND	ND	104
Reporting Limit unless otherwise stated, ND means not detected above the reporting limit		W	1.0 ug/L	1.0 ug/L	
		S	5.0 ug/kg	5.0 ug/kg	

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

h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment, j) sample diluted due to high organic content.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
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Heilshorn Environmental Eng. P.O. Box 20546 El Sobrante, CA 94820	Client Project ID: Beck Roofing	Date Sampled: 01/29/99
		Date Received: 01/29/99
	Client Contact: Elyse Heilshorn	Date Extracted: 02/01-02/03/99
	Client P.O:	Date Analyzed: 02/01-02/03/99

Oxygenated Volatile Organics By GC/MS

EPA method 8260 modified

Lab ID	02564	02565	02566	02567	Reporting Limit	
Client ID	MW1	MW2	MW3	MW4		
Matrix	W	W	W	W	S	W
Compound	Concentration*				ug/kg	ug/L
Di-isopropyl Ether (DIPE)	ND	ND	ND	ND	5.0	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	ND	ND	ND	5.0	1.0
Methyl-tert Butyl Ether (MTBE)	ND	ND	3.3	ND	5.0	1.0
tert-Amyl Methyl Ether (TAME)	ND	ND	ND	ND	5.0	1.0
tert-Butanol	ND	ND	ND	ND	25	5.0
Surrogate Recoveries (%)						
Dibromofluoromethane	100	98	103	104		
Comments:						

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

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

(h) lighter than water immiscible sheen is present; (i) liquid sample that contains greater than ~5 vol % sediment; (j) sample diluted due to high organic content

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 925-798-1620 Fax: 925-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 02/01/99-02/02/99 Matrix: WATER

Analyte	Concentration (mg/L) Sample (#02263)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.0	116.8	112.2	100.0	116.8	112.2	4.0
Benzene	0.0	11.1	11.6	10.0	111.0	116.0	4.4
Toluene	0.0	11.4	11.8	10.0	114.0	118.0	3.4
Ethyl Benzene	0.0	11.3	11.3	10.0	113.0	113.0	0.0
Xylenes	0.0	32.4	32.2	30.0	108.0	107.3	0.6
TPH(diesel)	0.0	154	161	150	103	107	4.5
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

% Rec = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

CHAIN OF CUSTODY RECORD

13835 xhe 12

BCA Log Number:

Client name: H&S

Project or PO#: Bush Roofing

Address: P.O. Box 20546

Phone #: 510/222-7968

City, State, Zip: Bakersfield CA 93390

Report attention: Elyse Helstern

Fax #: 222-8573

Analyses required: TPH as gas / BTEX / MTBE / oxygenates by EPA ; Hazardous sample Special handling required

Sampled by: EDH

Lab Sample number	Date sampled	Time sampled	Type* See key below	Sample description	Number of containers			Hazardous sample Special handling required
MW1	1/29/91		well water	Monit well sample (UST)	5	✓	✓	02564
MW2								02565
MW3								02566
MW4								02567

HCL ✓
HEAD SPACE ABSENT ✓
GOOD CONDITION ✓
PRESERVATION APPROPRIATE ✓
CONTAINERS ✓

VOA / O&G / METALS / OTHER

	Signature	Print Name	Company	Date	Time
Relinquished by	ED Helstern	Elyse D Helstern	H&S	1/29/91	2:05
Received by					
Relinquished by					
Received by					
Relinquished by					
Received by Laboratory	Gina A Ruiz	Gina A Ruiz	MAI	1/29/91	2:05

B C ANALYTICAL

1255 Powell Street, Emeryville, CA 94608 (510) 428-2300
801 Western Avenue, Glendale, CA 91201 (818) 247-5737
1200 Gene Autry Way Anaheim, CA 92805 (714) 978-0113

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client's expense.

Disposal arrangements:

*KEY WW—Wastewater SU—Surface Water SO—Soil SL—Sludge PE—Petroleum OT—Other NA—Nonaqueous GW—Groundwater AQ—Aqueous

APPENDIX E

DWR Well Completion Form and Permits for Well Destruction

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
951 TURNER COURT, SUITE 300, HAYWARD, CA 94545-2651
PHONE (510) 670-5575 ANDREAS GODFREY FAX (510) 670-5262
(510) 670-6148 ALVIN KAN

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 21123 Meekland Ave.
Hayward

California Coordinate Survey / ft. Accuracy / ft.
CCN / / ft. CCE / / ft.
APN / /

CLIENT
Name Beck Roofing Company
Address 21123 Meekland Ave Phone 581-6750
City Hayward Zip 94541

APPLICANT
Name E.D. Hellshorn
HEW Fax 510-222-8573
Address P.O. Box 20546 Phone 510-222-7568
City El Sobrante Zip 94820-0546

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	☐	General	☐
Water Supply	☐	Contamination	☐
Monitoring	☐	Well Destruction	☒

PROPOSED WATER SUPPLY WELL USE

New Domestic	☐	Replacement Domestic	☐
Municipal	☐	Irrigation	☐
Industrial	☐	Other ____	☐

DRILLING METHOD:

Mud Rotary	☐	Air Rotary	☐	Auger	☒
Cable	☐	Other	☐		

DRILLER'S LICENSE NO 604987 HEW Drilling

WELL PROJECTS
Drill Hole Diameter 8 in. Maximum
Casing Diameter 4 in. Depth 45 ft.
Surface Seal Depth 1-2 ft. Number 3

GEOTECHNICAL PROJECTS
Number of Borings ____ Maximum
Hole Diameter ____ in Depth ____ ft

ESTIMATED STARTING DATE Nov. 11, 1999
ESTIMATED COMPLETION DATE Nov 11 or 12, 1999

I hereby agree to comply with all requirements of this permit and Alameda County.

APPLICANT'S SIGNATURE E. D. Hellshorn DATE 10/29/99

FOR OFFICE USE
PERMIT NUMBER 99W1021
WELL NUMBER
APN

PERMIT CONDITIONS

Circled Permit Requirements Apply

(A.) GENERAL
1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
(2.) Submit to ACPWA within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well projects, or drilling logs and location sketch for geotechnical projects.
(3.) Permit is void if project not begun within 90 days of approval date.

B. WATER SUPPLY WELLS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

D. GEOTECHNICAL
Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

E. CATHODIC
Fill hole above anode zone with concrete placed by tremie.

(F.) WELL DESTRUCTION
See attached.

(G.) SPECIAL CONDITIONS

APPROVED Frank L Cook DATE 11-2-99

TOTAL PAGE.02

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
951 TURNER COURT, SUITE 300, HAYWARD, CA 94545-2651
PHONE (510) 670-5575 ANDREAS GODFREY FAX (510) 670-5262
(510) 670-5248 ALVIN KAN

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 21123 Meekland Ave.
Hayward

California Coordinate Source ____ ft. Accuracy ± ____ ft.
CCN ____ N CCE ____ E
APN ____

CLIENT
Name Beck Roofing Company
Address 21123 Meekland Ave Phone 581-6750
City Hayward Zip 94541

APPLICANT
Name E.D. Heilshorn
HE2
Address P.O. Box 20546 Fax 510-222-8573
City El Sobrante Phone 510-222-7968
Zip 94820-0546

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	☐	General	☐
Water Supply	☐	Contamination	☐
Monitoring	☐	Well Destruction	☐

PROPOSED WATER SUPPLY WELL USE

New Domestic	☐	Replacement Domestic	☐
Municipal	☐	Irrigation	☐
Industrial	☐	Other ____	☐

DRILLING METHOD:

Mud Rotary	☐	Air Rotary	☐	Auger	☒
Cable	☐	Other	☐		

DRILLER'S LICENSE NO. 604987 HEW Drilling Co.

WELL PROJECTS
Drill Hole Diameter ____ in. Maximum
Casing Diameter ____ in. Depth ____ ft.
Surface Seal Depth ____ ft. Number ____

GEOTECHNICAL PROJECTS
Number of Borings 4 Maximum
Hole Diameter 6-8 in. Depth 35 ft.

ESTIMATED STARTING DATE Monday November 8 1999
ESTIMATED COMPLETION DATE November 8, 1999

I hereby agree to comply with all requirements of this permit and Alameda County

APPLICANT'S SIGNATURE E.D. Heilshorn DATE 10/29/99

FOR OFFICE USE
PERMIT NUMBER 99WR1023
WELL NUMBER ____
APN ____

PERMIT CONDITIONS

Circled Permit Requirements Apply

A. GENERAL
1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
2. Submit to ACPWA within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well projects, or drilling logs and location sketch for geotechnical projects.
3. Permit is void if project not begun within 90 days of approval date.

B. WATER SUPPLY WELLS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

D. GEOTECHNICAL
Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

E. CATHODIC
Fill hole above anode zone with concrete placed by tremie

F. WELL DESTRUCTION
See attached.

G. SPECIAL CONDITIONS

APPROVED Frank A. Cook DATE 10-28-99

TOTAL PAGE.02

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
951 TURNER COURT, SUITE 300, HAYWARD, CA 94545-2651
PHONE (510) 670-5575 ANDREAS GODFREY FAX (510) 670-5262
(510) 670-5248 ALVIN KAN

WATER RESOURCES SECTION
GROUNDWATER PROTECTION ORDINANCE
For Monitoring Well at Clean or Contaminated Site

Destruction Requirements:

1. Drill out the well so that the casing, seal, and gravel pack are removed to the bottom of the well.
2. Sound the well as deeply as practicable and record for your report.
3. Using a tremie pipe fill the hole to 2 feet below the lower of finished grade or original ground with neat cement.
4. After the seal has set, backfill the remaining hole with compacted material

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

APPENDIX F

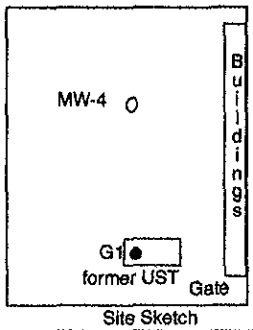
November 1999 Boring Logs

BOREHOLE LITHOLOGIC LOG

based on field visual-manual procedure

BOREHOLE ID: G1 Sheet 1 of 1

Project: Subsurface Investigation re: former UST
Date Drilled: 11/8/99
Time Began: 10:05 am
Client: Beck Roofing Company
Location: 21123 Meekland Ave, Hayward, CA 94541
Logged by: EDH
Surface Elevation:



Site Sketch

Drilling Company: HEW Drilling
Driller: Robert Greguras
Drill Rig Model: CME 75
Drill Rig Method: Hollow Stem Auger
Sampling Method/Diameter: Split spoon driven
Borehole Diameter: 8 inch

Water Level	26.4				
Time	8:15				

Depth (ft)	USCS Symbol	Field Soil/Sediment Description	Sample	Blow Count	PID Read	Well Detail	Remarks
				12			
15	GP	Fill, concrete plug in sampler	NA	11			No sample recovery
				10			
17	GM	Silt w/ fines to pea gravel backfill, dk brown		4			
				6			
				5			
20	ML	Sandy silt w/ pea gravel layer (fill), brown	G1-20	5			
			@8:15	4			
				4			
22	GP	Pea gravel w/ some fines					
25	GP	Pea gravel backfill	NA				No sample recovery
		Groundwater encountered 25-30 ft bgs					
30	GP	Pea gravel backfill	NA				No sample recovery
			G1-W				
			@8:25				
35	CL	Silty clay, lt brown-olive, wet	G1-35	4			
			@8:45	3			
				4			
37		Grout hole through auger to prevent hole collapse					Hole difficult to back fill -- loose pea gravel.
		Grouting completed 9:25					Bentonite added to thicken grout.

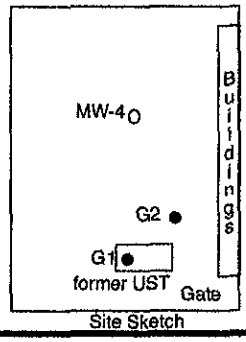
Heilshorn Environmental Engineering P.O. Box 20546 El Sobrante, CA 94820
ph 510-222-7968 fax 510-222-8573 edheilshorn@earthlink.net

BOREHOLE LITHOLOGIC LOG

based on field visual-manual procedure

BOREHOLE ID: G2 Sheet 1 of 1

Project: Subsurface Investigation re: former UST
Date Drilled: 11/8/99
Time Began: 10:05 am
Client: Beck Roofing Company
Location: 21123 Meekland Ave, Hayward, CA 94541
Logged by: EDH
Surface Elevation:



Site Sketch

Drilling Company: HEW Drilling
Driller: Robert Greguras
Drill Rig Model: CME 75
Drill Rig Method: Hollow Stem Auger
Sampling Method/Diameter: Split spoon driven
Borehole Diameter: 8 inch

Water Level	≈ 32	26.8			
Time	11:00	11:30			

Depth (ft)	USCS Symbol	Field Soil/Sediment Description	Sample	Blow Count	PID Read	Well Detail	Remarks
5		cuttings brown dry to 5 ft cuttings more clayey to 10 ft					
15	SP	Sand w/pebbles brown, fine	G2-15	6			
			@10:25	6			
16		layer of fine sand, brown, moist, changes to fine		11			
		sand with pebbles at 16.5 ft					
20	CL	Silty clay, gray brown w/ rust mottling, moist	G2-20	3			
			@10:30	2			
				6			
21.5	CL-CH	Silty clay, gray, moist					
		shoe - clay, gray, plastic, moist					
25	CL	Silty clay, gray brown, soft, wet	G2-25	4			
			@10:35	5			
				5			
30	CL	Sandy clay, gray brown, moist	G2-30	7			
			@10:45	9			
31.5	SC	Clayey sand, gray		9			
		Groundwater encountered between 30-35 ft					
35	CL-SC	Clayey sand to sandy clay, gray to gray brown wet	G2-35	4			
			@11:00	3			
				4			
			G2-W				
			@11:10				
37		Sandy clay					Work delayed waiting
		Grouting began at 12:15					for replacement steam cleaner

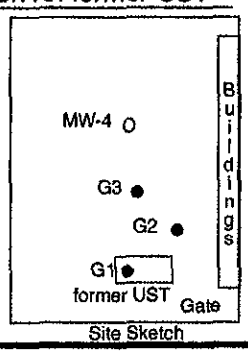
Heilshorn Environmental Engineering P.O. Box 20546 El Sobrante, CA 94820
ph 510-222-7968 fax 510-222-8573 edheilshorn@earthlink.net

BOREHOLE LITHOLOGIC LOG

based on field visual-manual procedure

BOREHOLE ID: G3 Sheet 1 of 1

Project: Subsurface Investigation re: former UST
Date Drilled: 11/8/99
Time Began: 1:25 pm
Client: Beck Roofing Company
Location: 21123 Meekland Ave, Hayward, CA 94541
Logged by: EDH
Surface Elevation:



Site Sketch

Drilling Company: HEW Drilling
Driller: Robert Greguras
Drill Rig Model: CME 75
Drill Rig Method: Hollow Stem Auger
Sampling Method/Diameter: Split spoon driven
Borehole Diameter: 8 inch

Water Level	≈ 32				
Time	2:20 pm				

Depth (ft)	USCS Symbol	Field Soil/Sediment Description	Sample	Blow Count	PID Read	Well Detail	Remarks
							Work delayed waiting
15	SW	Sand w/gravel	G3-15	4			for replacement steam
15.5	SP	Sand, brown, fine	@1:35	5			cleaner
16.5	SP	Sand, brown, fine		6			
20	ML	Silt w/clay & gravel, gray brown w/ rust mottling, moist	G3-20	3			
20.5	CL	Silty clay, gray brown w/ rust mottling, moist	@1:45	3			
				5			
21.5	CH	Clay, gray brown , moist					
25	CL	Silty clay, gray brown, plastic, moist	G3-25	3			
			@1:50	4			
				7			
30	CL	Clay, gray brown, stiff plastic, moist	G3-30	3			
			@2:00	4			
30.5	CL	Sandy clay, gray brown, moist		7			
		Groundwater encountered between 30-35 ft					
35	CL	Clay, gray brown, plastic, wet	G3-35	2			
			@2:10	3			
36		Sandy clay to clay, gray brown, wet		5			
			G3-W				
		Groundwater slight odor, soil no odor	@2:20				

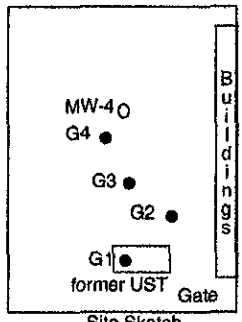
Heilshorn Environmental Engineering P.O. Box 20546 El Sobrante, CA 94820
ph 510-222-7968 fax 510-222-8573 edheilshorn@earthlink.net

BOREHOLE LITHOLOGIC LOG

based on field visual-manual procedure

BOREHOLE ID: G4 Sheet 1 of 1

Project: Subsurface Investigation re: former UST
Date Drilled: 11/8/99
Time Began: 3:20 pm
Client: Beck Roofing Company
Location: 21123 Meekland Ave, Hayward, CA 94541
Logged by: EDH
Surface Elevation:



Site Sketch

Drilling Company: HEW Drilling
Driller: Robert Greguras
Drill Rig Model: CME 75
Drill Rig Method: Hollow Stem Auger
Sampling Method/Diameter: Split spoon driven
Borehole Diameter: 8 inch

Water Level	27.4				
Time	4:20 pm				

Depth (ft)	USCS Symbol	Field Soil/Sediment Description	Sample	Blow Count	PID Read	Well Detail	Remarks
		Concrete pad 1-2"thick at 1 ft					
15		concrete plug in shoe					No sample recovery
		Cuttings silty sand, gray brown					
17	SP	Sand, brown, fine, dry	G4-15	3			
			@3:30	3			
18.5	SP	Sand, brown, fine,wet		2			
20	CL	Silty clay , gray brown, moist	G4-20	2			
			@3:40	2			
21.5	CL	Silty clay , gray brown, moist		4			
25	CL	Silty clay, gray brown w/rust mottling, plastic, moist	G4-25	2			
			@3:50	2			
				4			
		Groundwater encountered between 25-30 ft					
30		No Sample recovery, drilled 2 more feet					
32	SC	Clayey sand, brown, soft, wet	G4-30	4			
32.5	SC	Clayey sand with small pebbles	@4:05	4			
				6			
35	CL	Sandy clay, gray brown, wet	G4-35	3			
			@4:15	7			
				9			
			G4-W				
			@4:25				

Heilshorn Environmental Engineering P.O. Box 20546 El Sobrante, CA 94820
ph 510-222-7968 fax 510-222-8573 edheilshorn@earthlink.net

APPENDIX G

November 1999 Analytical Reports and Chain of Custody

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

Heilshorn Environmental Eng.	Client Project ID: Beck Roofing	Date Sampled: 11/08/99
P.O. Box 20546		Date Received: 11/09/99
El Sobrante, CA 94820	Client Contact: Elyse Heilshorn	Date Extracted: 11/09-11/16/99
	Client P.O:	Date Analyzed: 11/09-11/16/99

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 GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g)+	MTBE	Benzene	Toluene	Ethylben-zene	Xylenes	% Recovery Surrogate
25231	G1-35	S	ND	ND	ND	ND	ND	ND	104
25232	G1-W	W	15,000,a	ND<50	810	17	1400	630	99
25235	G2-25	S	58,b	ND<0.10	0.12	0.075	1.0	2.0	108
25236	G2-30	S	7.9,a	ND	0.023	0.010	0.060	0.10	97
25237	G2-35	S	ND	ND	ND	ND	0.008	0.009	98
25238	G2-W	W	34,000,a	ND<300	780	ND<4	2200	2400	99
25241	G3-25	S	ND	ND	ND	ND	ND	ND	100
25242	G3-30	S	22,b,j	ND	0.063	ND	0.32	0.12	---#
25243	G3-35	S	ND	ND	ND	ND	ND	ND	96
25244	G3-W	W	10,000,a	ND<100	110	1.9	370	51	119
25247	G4-25	S	ND	ND	ND	ND	ND	ND	97
25248	G4-30	S	ND	ND	ND	ND	ND	ND	102
25249	G4-35	S	ND	ND	ND	ND	ND	ND	92
25250	G4-W	W	ND	ND	ND	ND	ND	ND	100
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.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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

QC REPORT

Date: 11/09/99 Matrix: Water

Extraction: N/A

Compound	Concentration: ug/L				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 22651				Instrument: GC-7			
Xylenes	0.0	280.0	275.0	300.00	93	92	1.8
Ethyl Benzene	0.0	95.0	94.0	100.00	95	94	1.1
Toluene	0.0	96.0	98.0	100.00	96	98	2.1
Benzene	0.0	94.0	97.0	100.00	94	97	3.1
MTBE	0.0	88.0	89.0	100.00	88	89	1.1
GAS	0.0	840.6	826.9	1000.00	84	83	1.6
SampleID: 11999				Instrument: GC-6 B			
TPH (diesel)	0.0	358.0	360.0	300.00	119	120	0.6
SampleID: 25031				Instrument: IR-1			
TRPH	0.0	25.8	28.5	23700.00	0	0	9.9

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

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

RPD means Relative Percent Deviation

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

QC REPORT

Date: 11/09/99 Matrix: Soil

Extraction: N/A

Compound	Concentration: mg/kg				%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	MSD	
SampleID: 17868					Instrument: GC-7		
Xylenes	0.0	0.3	0.3	0.30	100	98	2.0
Ethyl Benzene	0.0	0.1	0.1	0.10	103	101	2.0
Toluene	0.0	0.1	0.1	0.10	105	102	2.9
Benzene	0.0	0.1	0.1	0.10	101	101	0.0
MTBE	0.0	0.1	0.1	0.10	87	94	7.7
GAS	0.0	0.9	0.9	1.00	86	87	0.2
SampleID: 19288					Instrument: GC-11 B		
TPH (diesel)	0.0	306.0	313.0	300.00	102	104	2.3
SampleID: 18996					Instrument: IR-1		
TRPH	0.0	23.6	23.9	20.80	113	115	1.3

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

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

RPD means Relative Percent Deviation

17587 2he8.doc

McCAMPBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553-5560
Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HOUR ☐ 48 HOUR ☒ 5 DAY

Report To: Elyse Heilshorn Bill To: Same
Company: HE2
P.O. Box 20546
El Sobrante CA 94820-0546
Tele: (510) 222-7968 Fax: (510) 222-8573
Project #: — Project Name: Beck Roofing
Project Location: Beck Yard
Sampler Signature: E Heilshorn

SAMPLE ID	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX: Water	Soil	Air	Sludge	Other	METHOD PRESERVED: Ice	HCl	HNO_3	Other
G1-20	G1@20'	11/8/91	8:15	1	tube		✓				✓			
G1-35	G1-35'		8:45	1	tube		✓							
G1-W	G1-gutter		8:25	2	VOA	✓						✓		
G2-15	G2		10:25	1	tube		✓							
G2-20			10:30	1										
G2-25			10:35	1										
G2-30			10:45	1										
G2-35			11:00	1			✓							
G2-W			11:10	2	VOA	✓						✓		
G3-15	G3		1:35	1	Tube									
G3-20			1:45	1										
G3-25			1:50	1										
G3-30			2:00	1										
G3-35			2:10	1										
G3-W			2:20	2	VOA						✓	✓		

Analysis Request: BTEX & TPH as Gas (602/8020 + 8015)/ MTBE; TPH as Diesel (8015); Total Petroleum Oil & Grease (5520 E&F/B&F); Total Petroleum Hydrocarbons (418.1); EPA 601 / 8010; BTEX ONLY (EPA 602 / 8020); EPA 608 / 8080; EPA 608 / 8080 PCB's ONLY; EPA 624 / 8240 / 8260; EPA 625 / 8270; PAH's / PNA's by EPA 625 / 8270 / 8310; CAM-17 Metals; LUFT 5 Metals; Lead (7240/7421/239.2/6010); RCI

Other	Comments
25230	H
25231	
25232	
25233	H
25234	H
25235	
25236	
25237	HOLD
25238	NOW
25239	NOW H
25240	H HOLD
25241	HOLD
25242	NOW
25243	NOW
25244	HOLD HOLD NOW NOW NOW NOW

Relinquished By:	Date:	Time:	Received By:
E Heilshorn	11/9/91	12:00	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

Remarks:
ICE/T ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
PRESERVATION APPROPRIATE ✓
CONTAINERS ✓
VOAS | O&G | METALS | OTHER ✓

McCAMPBELL ANALYTICAL INC.
110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553-5560
Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HOUR ☐ 48 HOUR ☑ 5 DAY

Report To: Elyse Heilshorn | Bill To: Same
Company: HE2
P.O. Box 20546
El Sobrante CA 94820-0546
Tele: (510) 222-7968 | Fax: (510) 222-8573
Project #: | Project Name: Bech Roofing
Project Location: 21123 Mooreland Ave, Hayward
Sampler Signature: EDHeilshorn

SAMPLE ID	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX: Water	Soil	Air	Sludge	Other	METHOD PRESERVED: Ice	HCl	HNO_3	Other
G4-15	G4	11/8/99	3:35	1	tube		✓				✓			
G4-20	↓	↓	3:40	1	↓		✓				✓			
G4-25			3:50	1			✓				✓			
G4-30			4:05	1			✓				✓			
G4-35			4:15	1	↓		✓				✓			
XS G4W	↓	↓	4:25	2	VOA	✓					✓	✓		

Analysis Request: BTEX & TPH as Gas (602/8020 + 8015)/ MTBE; TPH as Diesel (8015); Total Petroleum Oil & Grease (5520 E&F/B&F); Total Petroleum Hydrocarbons (418.1); EPA 601 / 8010; BTEX ONLY (EPA 602 / 8020); EPA 608 / 8080; EPA 608 / 8080 PCB's ONLY; EPA 624 / 8240 / 8260; EPA 625 / 8270; PAH's / PNA's by EPA 625 / 8270 / 8310; CAM-17 Metals; LUFT 5 Metals; Lead (7240/7421/239.2/6010); RCI

Other | Comments

25245	H	HOLD
25246	H	HOLD
25247		NOW
25248		NOW
25249		NOW
25250		NOW

Relinquished By:	Date:	Time:	Received By:
EDHeilshorn	11/9/99	12:00	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

Remarks:

ICE/T ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
PRESERVATION APPROPRIATE ✓
CONTAINERS ✓

VOA | O&G | METALS | OTHER

L: mv

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http://www.mccampbell.com E-mail: main@mccampbell.com

Heilshorn Environmental Eng.	Client Project ID: Beck Roofing	Date Sampled: 11/08/99
P.O. Box 20546		Date Received: 11/09/99
El Sobrante, CA 94820	Client Contact: Elyse Heilshorn	Date Extracted: 11/18-11/22/99
	Client P.O:	Date Analyzed: 11/18-11/22/99

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 GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g)+	MTBE	Benzene	Toluene	Ethylben-zene	Xylenes	% Recovery Surrogate
25230	G1-20	S	10,g	ND	0.007	0.014	0.068	0.039	93
25234	G2-20	S	ND	ND	ND	ND	ND	ND	100
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.

DHS Certification No. 1644

Edward Hamilton, Lab Director