CONTAMINATION INVESTIGATION
EAST BAY SURGERY CENTER
3875 TELEGRAPH AVENUE
OAKLAND, CALIFORNIA

TERRACON PROJECT NO. 67017004
September 19, 2001

Prepared for:

HEALTHSOUTH CORPORATION
One Healthsouth Parkway
Birmingham, AL 35243

Prepared by:

TERRACON
801 East Glendale Ave.
Sparks, Nevada
Phone: 775-351-2400
Fax: 775-351-2423

Terracon

September 19, 2001

Terracon
801 East Glendale Avenue
Sparks, Nevada 89431
(775) 351-2400 Fax: (775) 351-2423

Healthsouth Corporation
One Healthsouth Parkway
Birmingham, AL 35243

Attn: Ms. Stephanie Boatman

Re: Contamination Investigation
East Bay Surgery Center
3875 Telegraph Ave.
Oakland, California
Terracon Project No. 67017004

Dear Ms. Boatman:

Terracon has completed a Contamination Investigation for the above-referenced property. The Investigation was completed in general accordance with Terracon's Proposal No. P6701009, dated June 26, 2001. Our observations and findings concerning the environmental conditions at the site are summarized in the attached report.

Terracon appreciates the opportunity to be of service to you on this project. If there are any questions concerning this report, or if we may be of further assistance, please call.

Sincerely,
TERRACON

Kathi Brandmueller
Project Manager

Herbert M. Spitz, R.G. 4836
Senior Professional

Joseph W. McGee
Environmental Department Manager

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EXECUTIVE SUMMARY

A Contamination Investigation was conducted for the East Bay Surgery Center located at 3875 Telegraph Ave., Oakland, California. Field activities were performed by Terracon on August 29, 2001. This investigation was conducted to investigate and characterize the extent and nature of petroleum contamination on-site, if any, identified in other consultants' prior reports. In addition, the investigation was performed to provide baseline data to determine the feasibility and cost of remediation.

The investigation included advancing six continuous Geoprobe borings at selected locations within the subject site boundaries (see Figure 2). One soil sample and one groundwater sample were collected from each boring. Samples were analyzed for volatile organic compounds by EPA method 8260.

Based on this investigation, petroleum contaminated subsurface soil and groundwater were encountered at the site. The highest levels of soil and groundwater contamination were found in Geoprobe boring B-1, which is located in the southwest corner of the site. The groundwater sample collected from Geoprobe boring B-1 contained benzene at a concentration of 11,000 µg/L and ethylbenzene at a concentration of 2,600 µg/L, which exceed the respective action levels for groundwater. Elevated concentrations of other volatile organic compounds were also identified in the B-1 soil and groundwater samples. Elevated levels of volatile organic compounds were also detected in soil and groundwater samples from borings B-2 and B-4. Soil and groundwater samples collected from borings B-3, B-5, and B-6 contained only traces or no detectable volatile organic compounds. The source or sources of the contamination and the extent of the contamination could not be fully determined from the six Geoprobe borings. To determine the source of the contamination and to fully characterize the contamination, installation of monitoring wells on the subject site and adjoining properties would be required.

PCE was not detected in any of the soil or groundwater samples and thus potential contamination from a former adjoining dry cleaning facility to the east across Telegraph Avenue was not identified.

Terracon concludes that reportable concentrations of petroleum contaminated subsurface soil and groundwater have been identified at the subject site. Terracon recommends that

the owners of the property notify the appropriate regulatory agencies as to the findings of this investigation. Additional characterization will be required to establish the source or sources of the contamination, the groundwater flow direction, and the extent of the soil and groundwater contamination.

CONTAMINATION INVESTIGATION
EAST BAY SURGERY CENTER
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1.0 INTRODUCTION

Terracon has completed a Contamination Investigation for Healthsouth Corporation for the East Bay Surgery Center located at 3875 Telegraph Avenue, Oakland, California, herein referred to as the subject site. This investigation was conducted to investigate and characterize the extent and nature of petroleum contamination on-site, if any, identified in other consultants' prior reports. In addition, the investigation was performed to provide baseline data to determine the feasibility and cost of remediation.

Terracon's Contamination Investigation consisted of advancing six continuous Geoprobe borings at selected sites within the subject site boundaries (see Figure 2). One soil sample and one groundwater sample were selected from each boring for laboratory analysis. Soil sampling depths were based on field observations of contamination indicators including staining, odor, and organic vapor meter (OVM) reading. If no contamination indicators were observed in a boring, the soil sample was collected within the capillary fringe. Samples were analyzed for volatile organic compounds by EPA method 8260.

Terracon's work was performed in general accordance with our Proposal No. P6701009, dated June 26, 2001. The following sections contain a discussion of the previously conducted assessments, subject site description, field methodologies, analytical test results, and conclusions.

1.1 Background

The subject site is currently developed with the East Bay Surgery Center. The surgery center consists of an approximately 16,000 square foot building, a parking lot, and landscaped areas. Environmental Site Assessments (ESAs) performed by others indicated the former presence of three gasoline stations on the subject site. A brief summary of those report findings follows.

A Kleinfelder, Inc. Phase I Environmental Site Assessment report on the subject site dated January 25, 1990 was reviewed and this report noted the former presence of two gasoline stations on the site. The removal of the tanks from the northern portion of the site was

reported to have been completed without incident. Additionally, the report noted the discovery of a possibly 80-year old brick-lined cistern on the site. The Kleinfelder report also noted a dry cleaning facility on an adjoining property to the east across Telegraph Avenue. Recommendations relative to the site were not made in this report.

A Harding Lawson Associates (HLA) Phase I Preliminary Hazardous Materials Site Assessment report on the subject site dated January 22, 1993 identified three former gasoline stations on the site. The northern portion of the site was apparently occupied by two gasoline stations, one prior to 1947 and one from 1951-1985. The southerly gasoline station apparently ceased operations as of 1936 and was reportedly not shown on a 1947 aerial photograph of the site. The northerly gasoline station was also reportedly not shown on this same 1947 photograph. Disposition of the underground tanks from both of the pre-1947 gasoline stations is unknown. A 1950 Sanborn Fire Insurance map showed no gasoline stations on the site, but a 1951 Sanborn map showed a gasoline station on the northern portion of the site. This third gasoline station was apparently in operation from 1951 through 1985. Permits for removal of the USTs from this most recent northerly gasoline station were issued on December 5, 1984. Geotechnical borings drilled in 1984 for the construction of the existing East Bay Surgery Center building noted strong hydrocarbon odors at the water table in the four borings. In addition, a sump was discovered in the northwestern portion of the property that appeared to contain a liquid petroleum product. The sump was pumped out and the soils were excavated prior to construction of the existing East Bay Surgery Center. Approximately 300 gallons of fluid described as water (95%) and "oil" (5%) on the hazardous waste manifest to a licensed disposal facility near Martinez, California. A slotted PVC well screen was installed in the sump excavation area for future use to remove petroleum product that might accumulate in the groundwater. An up-gradient LUST site with multiple monitoring wells and up to six feet of free product was noted at 40th and Telegraph, approximately 300 feet to the north. HLA recommended the installation of three monitoring wells and two additional soil borings to evaluate the possible presence of soil and groundwater contamination on the site from both on-site and off-site sources. Copies of the plates from the HLA report showing the gasoline location are attached in Appendix A.

The prior consultants' reports noted that groundwater was encountered at depths ranging from 10 to 15 feet below the ground surface (bgs) in 1984 and that the groundwater flow direction was estimated as west to southwest. Based on the former presence of on-site USTs, the strong hydrocarbon odors at the water table in the four 1984 geotechnical borings, and the presence of off-site sources of contamination, Terracon proposed the collection of subsurface soil and groundwater samples to assess for soil and groundwater

contamination and to attempt to characterize as much as possible any contamination that was encountered.

2.0 PROPERTY DESCRIPTION

The subject site is located at 3875 Telegraph Ave., Oakland, Alameda County, California. The subject site consists of an approximately 26,500 square foot parcel occupied by a single story structure, which currently houses the East Bay Surgery Center. Paved parking and landscaped areas are located on the north and south sides of the existing structure. A chain link fence extends along the western boundary of the subject site from Apgar Street to 39th Street. There is a fenced enclosure on the northwest side of the building. The enclosure is used to house the heating and air conditioning units, the backup generator, and storage for infectious waste.

The subject site location is depicted on Figure 1 of Appendix A, which was reproduced from a portion of the Microsoft Street and Trips digital map of the area. A Site Diagram of the subject site and adjoining properties is included as Figure 2 of Appendix A.

3.0 FIELD INVESTIGATION

A Drilling Permit Application was filed with the Alameda County Public Works Agency on August 13, 2001. The application documents that 6 2-inch Geoprobe borings would be advanced to a depth of approximately 25 feet below grade at the site.

3.1 Soil Sampling Methods

On August 28, 2001, six borings were advanced on the subject site using truck-mounted Geoprobe direct push drilling equipment. The approximate locations of the Geoprobe borings B-1 though B-6 on the subject site are shown on Figure 2 of Appendix A.

The Geoprobe was equipped with 2-inch diameter four-foot long metal rods lined with acetate sleeves. As the metal rod is advanced into the soil, soil collects within the acetate sleeve. To collect the soil samples, the rods are withdrawn from the boring and desired soil samples were cut from the acetate sleeve for field screening, soil classification, and selection and preservation for laboratory analysis. Geoprobe borings were advanced to approximately two feet into groundwater at all six locations. The soil horizon in the Geoprobe boring from the

ground surface to total depth was classified in the field by a field engineer. A generalized soil classification log showing the subsurface stratigraphy and depth of the subsurface soil sample is presented in Appendix B. Upon completion of the Geoprobe activities, the borings were backfilled with a cement slurry. The down-hole soil sampling equipment was decontaminated prior to use in each boring. The decontamination procedures were conducted to remove all solid residues from previous use. The procedures consisted of scrubbing the sampling equipment (Geoprobe rods) in a detergent and water mixture. The equipment was triple rinsed in water and allowed to air dry.

Soils recovered from the borings were monitored for staining, odor, and OVM readings. The soil horizons in the borings from the ground surface to total depth were screened in the field with a Thermo Environmental Instruments Inc. Model 580B™ photoionization Organic Vapor Meter (OVM). The soil screening was performed to identify the potential presence of contamination through visual observations and volatile organic compound screening with the OVM. Representative soil material for the screening was collected from the Geoprobe soil samples.

The OVM results are summarized in the following table:

BORING NO.	DEPTH/OVM	DEPTH/OVM	DEPTH/OVM
B1	11 ft. bgs/ 1 ppm	15.5 ft. bgs/ 24 ppm	17.5 ft. bgs/ 68 ppm
B2	14.5 ft. bgs/ 34 ppm	19.5 ft. bgs/ 140 ppm	21.5 ft. bgs/ 6ppm
B3	15.5 ft. bgs/ 1ppm	-	-
B4	14.5 ft. bgs/ 16 ppm	22 ft. bgs/ 1 ppm	-
B5	-	-	-
B6	16.5 ft. bgs/ 26 ppm	-	-

Soil samples were collected by two methods. Method one was to cut a six-inch section from the 4-foot acetate tube and seal the ends with Teflon tape and caps. Method two was to transfer soil from the acetate tube into 4-ounce laboratory sample jars. All samples were labeled and preserved on ice at an approximate temperature of four degrees Celsius. Based on the field screening, soil samples were submitted to the laboratory for analysis from the Geoprobe borings (identified as B1@15', B2@19.5', B3@15.5', B4@14.5', B5@21.5', and B6@11.5'). The soil samples were delivered to Nevada Environmental Laboratory of Reno, Nevada, a California certified analytical laboratory, under chain-of-custody protocols and analyzed for volatile organic compounds (VOCs) by EPA Method 8260.

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3.2 Soil Analytical Results

The soil laboratory analytical results are summarized in the following table:

SUMMARY OF
SOIL SAMPLE ANALYTICAL RESULTS

	B1@ 15' Results* ug/kg	B2@19.5' Results ug/kg	B3@15.5' Results ug/kg	B4@14.5' Results ug/kg	B5@ 21.5' Results ug/kg	B6@11.5' Results ug/kg
Acetone	ND	ND**	ND	ND	28	ND
Benzene	420	ND	ND	ND	ND	ND
n-Butylbenzene	1,400	6,800	23	370	22	ND
sec-Butylbenzene	350	2,000	10	870	19	ND
tert-Butylbenzene	ND	ND	ND	61	ND	ND
Ethylbenzene	4,700	9,600	ND	45	ND	ND
Isopropylbenzene	630	3,800	8.2	1,500	ND	ND
p-Isopropyltoluene	160	1,000	ND	41	ND	ND
Naphthalene	1,700	4,200	ND	ND	ND	ND
n-Propylbenzene	2,300	14,000	32	5,400	15	ND
Tetrachloroethene (PCE)	ND	ND	ND	ND	ND	ND
Toluene	86	ND	ND	ND	ND	ND
1,2,3 Trichlorobenzene	ND	ND	6.6	ND	ND	ND
1,2,4 Trichlorobenzene	ND	ND	7.3	ND	ND	ND
1,2,4 Trimethylbenzene	10,000	22,000	ND	ND	ND	ND
1,3,5 Trimethylbenzene	3,500	12,000	ND	ND	ND	ND
o-Xylene	2,500	ND	ND	ND	ND	ND
m, p-Xylene	14,000	2,000	ND	320	ND	ND

* Copies of the analytical report forms for the soil samples are provided in Appendix C.
** Not detected above laboratory limits.

The greatest levels of VOCs were detected in the soil samples from borings B-1, B-2, and B-4, which were located closest to the western margin of the subject site. Borings B-3, B-5, and B-6 contained fewer types of VOCs in trace amounts or none were detected. PCE was not detected in any of the soil samples submitted for analysis. The soil contamination appears to be concentrated on the western margin of the areas investigated, on both the north and south sides of the existing building.

3.2 Groundwater Sampling Methods

Upon completion of each of the Geoprobe borings, a groundwater sample was collected from each boring. Geoprobe borings were advanced to approximately two feet into groundwater at all six locations. In general groundwater was encountered in a clayey sand or sand layer that was overlain with lean clay approximately 17 to 22 feet below grade. A representative groundwater sample was obtained from the Geoprobe borings using a single use polyethylene bottom filling mini bailer. The sample was retrieved by lowering the bailer into the boring and allowing the groundwater to slowly fill the bailer. The recovered groundwater was then transferred into laboratory supplied 40 ml vials that were pre-preserved with HCL, sealed without headspace, labeled, and stored at approximately four degrees Celsius. The sample was delivered to Nevada Environmental Laboratories of Reno, Nevada, a California certified analytical laboratory, and analyzed for Volatile Organic Compounds by EPA Method 8260. Groundwater samples were identified as B1, B2, B3, B4, B5, and B6.

3.2 Groundwater Analytical Results

The groundwater laboratory analytical results are summarized in the following table:

SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS

Results reported as ug/L	B1 Results*	B2 Results	B3 Results	B4 Results	B5 Results	B6 Results
Benzene	11,000	30	ND**	ND	ND	ND
n-Butylbenzene	ND	ND	ND	ND	ND	ND
Sec-Butylbenzene	ND	ND	23	ND	ND	ND
tert-Butylbenzene	ND	ND	ND	ND	ND	ND
Ethylbenzene	2,600	100	310	ND	ND	ND
Isopropylbenzene	ND	21	74	ND	6.2	ND
p-Isopropyltoluene	ND	ND	ND	ND	ND	ND
Naphthalene	640	20	90	ND	ND	ND
n-Propylbenzene	560	39	230	6.4	7.3	ND
Tetrachloroethene (PCE)	ND	ND	ND	ND	ND	ND
Toluene	760	ND	ND	ND	ND	ND
1,2,4 Trimethylbenzene	2,300	57	100	ND	ND	ND
1,3,5 Trimethylbenzene	600	10	120	ND	ND	ND
o-Xylene	2,200	32	ND	ND	ND	ND
M, p-Xylene	7,100	130	74	ND	ND	ND

* Copies of the analytical report forms for the groundwater samples are provided in Appendix C.
** Not detected above laboratory limits.

The highest levels of soil and groundwater contamination were also documented in boring B-1 located in the southwest corner of the site. The groundwater sample collected from Geoprobe boring B-1 contained benzene at a concentration of 11,000 µg/L, ethylbenzene at a concentration of 2,600 µg/L, and total xylenes at a concentration of 9,300 µg/L, which exceed the respective action levels for groundwater. Elevated concentrations of other volatile organic compounds were also identified in the B-1 groundwater sample. Elevated levels of volatile organic compounds were also detected in groundwater samples from borings B-2 and B-3. Groundwater samples collected from borings B-4, B-5, and B-6 contained only traces or no detectable volatile organic compounds. Borings B-4, B-5, and B-6 are located in the southeast and northern portions of the subject site.

4.0 CONCLUSIONS

Terracon has completed a Contamination Investigation for the East Bay Surgery Center located at 3875 Telegraph Ave., Oakland, California. Terracon's work was performed in general accordance with our Proposal No. P6701009, dated June 26, 2001. This investigation was conducted to investigate and characterize the extent and nature of petroleum contamination on-site, if any, identified in prior reports. In addition, the investigation was performed to provide baseline data to determine the feasibility and cost of remediation.

Terracon concludes that reportable concentrations of petroleum contaminated subsurface soil and groundwater have been identified at the subject site. Terracon recommends that the owners of the property notify the appropriate regulatory agencies as to the findings of this investigation. Additional characterization will be required to establish the source or sources of the contamination, the groundwater flow direction, and the extent of the soil and groundwater contamination.

The owners of the property are responsible for reporting the contamination to the following parties:

City of Oakland
Certified Unified Program Agency
Hazardous Materials Section
510-238-3938

Alameda County Environmental Health
Hazardous Materials Section
510-567-6700

State of California Water Resources Control Board
San Francisco Bay Region
510-622-2300

According to the California Code of Regulation (CCR), Title 23, Division 3, Chapter 16, Article 11, a "Soil and Groundwater Investigation" must be done to assess the vertical and lateral extent of the release and determine a cost-effective method of clean up. Prior to implementing any phase of corrective action (assessment and remediation), a work plan must be submitted to and approved by Alameda County Environmental Health.

5.0 GENERAL COMMENTS

The behavior of subsurface contaminants is a complex phenomenon involving geochemistry, hydrogeology, and the geotechnical sciences. Terracon's conclusions regarding the potential for subsurface contamination are based solely upon information cited in this report. The analyses and conclusions in this report are based upon data obtained from this assessment. The nature and extent of variations beyond this assessment may not become evident until further exploration. If variations then appear evident, it may be necessary to reevaluate the conclusions of this report. The professional services provided and judgment rendered on this project meet current professional standards and do not carry any other guarantee.

Terracon accepts no responsibility or liability to any person or organization for any claim, for loss or damage (including attorney's fees) caused, or believed to be caused, directly or indirectly by: conditions not revealed by the laboratory analyses performed; failure to perform other chemical analyses or utilize different test methods or equipment; or failure to locate or install additional sample points, test pits, soil borings, or monitoring wells.