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Expanded Phase I Environmental Site  
Assessment

Unocal Service Station 5353  
Seattle, Washington

April 25, 1995

130-4

For  
Unocal CERT - Northern Region

April 25, 1995

**Consulting Engineers  
and Geoscientists**  
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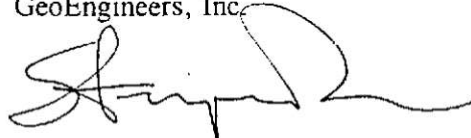
Attention: Dr. Mark Brearley, R.G.

We are submitting two copies of our "Expanded Phase I Environmental Site Assessment" for the site of Unocal Service Station 5353 in Seattle, Washington. Contractual terms for our services are included in blanket contract B1982G.

We appreciate the opportunity to be of continued service to Unocal. Please call if you have any questions regarding this report or our ongoing studies.

Yours very truly,

GeoEngineers, Inc.



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**EXPANDED PHASE I ENVIRONMENTAL SITE ASSESSMENT  
UNOCAL SERVICE STATION 5353  
SEATTLE, WASHINGTON  
FOR  
UNOCAL CERT - NORTHERN REGION**

**EXECUTIVE SUMMARY**

This report presents GeoEngineers' expanded Phase I ESA (environmental site assessment) of Unocal Service Station 5353, located at 600 Westlake Avenue North in Seattle, Washington. The site is identified as site number 008463 in Ecology's (Washington State Department of Ecology) list of registered USTs (underground storage tanks). The site also is identified as incident number 3043 in Ecology's list of leaking USTs.

The objective of this Phase I ESA was to research past and current on-site and off-site activities that may be contributing sources to the subsurface contamination identified at the site.

The documented subsurface release of gasoline at Unocal Service Station 5353 is likely the most significant source of contamination identified at the subject site. However, many other past and present businesses in the vicinity of the subject site may have contributed to subsurface contamination beneath Unocal Service Station 5353. We identified 26 possible sources of contamination from historical or current activities at businesses located on or near the subject site.

**INTRODUCTION AND SCOPE**

The subject property for this study includes Unocal Service Station 5353 (600 Westlake Avenue North) and the adjacent parcel to the east (601 Terry Avenue North), which is currently occupied by Denny's Restaurant. We understand these two adjacent parcels are currently owned by Unocal. The site is located in the southeast quarter of the northeast quarter of Section 30, Township 25 North, Range 4 East. The legal description for the Unocal property is as follows:

ALL OF Lots 4, 5 and 6, Block 77, Lake Union Shore Lands, and ALL OF Lots 4, 5, 6, 7 and 8, Block "A," D.T. Denny's 6th Addition to North Seattle, according to the plat thereof recorded in Volume 1 of Plats, page 241, in King County, Washington; EXCEPT the west 12 feet of said Lot 7 and in Block "A" condemned in King County Superior Court Cause Number 62184 for the widening of Westlake Avenue; AND EXCEPT the east 5 feet of all said premises condemned in King County Superior Court Cause No. 12162264 for the widening of Terry Avenue.

The location of the site relative to surrounding physical features is shown in Figure 1. The general layout of the Unocal property is shown in Figure 2.

The scope of services completed for this expanded Phase I ESA study includes the following:

1. Summarize past site characterization studies completed by GeoEngineers and other consultants.
2. Conduct a visual reconnaissance of the site and adjacent properties to identify visual signs of possible contamination or activities that could have resulted in contamination.
3. Review historical maps and aerial photographs of the site and surrounding area to determine past development history on and adjacent to the site relative to the potential generation, storage, release or disposal of hazardous substances.
4. Review building plans for the site and surrounding properties available at Seattle's DCLU (Department of Construction and Land Use).
5. Review historical city directories to identify businesses previously located on the site and nearby properties that potentially used, stored, generated or released hazardous substances.
6. Review Unocal's maintenance/construction and real estate files for the site.
7. Interview a former adjacent property occupant regarding the past use of the subject property and surrounding area.
8. Review Ecology and/or EPA (U.S. Environmental Protection Agency) lists of registered USTs, leaking USTs, businesses that generate, transport or dispose of hazardous waste, and confirmed or suspected contaminated sites within 1/2 mile of the subject property.
9. Review Ecology's files for the leaking UST sites within 1/4 mile of the subject property.
10. Obtain and review chain-of-title property history reports for the subject site and select adjacent properties.

We did not evaluate the property structures for possible asbestos-containing materials, or complete additional subsurface explorations as part of this expanded Phase I ESA.

## **SUMMARY OF PREVIOUS CHARACTERIZATION STUDIES**

### **GENERAL SITE CONDITIONS**

The subject site (Unocal Service Station 5353 and Denny's Restaurant) is located north of Mercer Street between Westlake Avenue North and Terry Avenue North, approximately 400 feet south of Lake Union. The site is approximately 240 feet by 180 feet in plan dimensions, is relatively flat, and is at an approximate ground surface elevation of 20 feet above mean sea level (USGS datum). The site is surfaced with portland cement concrete and asphaltic concrete. The regional topography slopes generally northward down toward Lake Union.

Unocal Service Station 5353 was constructed in 1965. The facility layout is shown in Figure 2. Existing aboveground structures at the site include a service station building, two canopies, four service islands and a restaurant building. Existing subsurface facilities at the service station include four 10,000-gallon fiberglass gasoline USTs and associated fiberglass product lines, one 550-gallon steel heating oil UST, one 550-gallon steel waste oil UST, three



single-post hydraulic hoists, one dual-post hydraulic hoist and the underground portion of the VES (vapor extraction system). The aboveground portion of the VES is situated in the northern portion of the property.

#### LIST OF REPORTS REVIEWED

We reviewed the following previous site characterization studies:

- "Progress Reports #1-45 - Monitoring and Recovery Operations" by Roger Lowe Associates Inc. and Harding Lawson Associates dated December 23, 1980 through October 27, 1982.
- "Summary of Geotechnical Consultation" by GeoEngineers, Inc. dated November 14, 1985.
- "Vapor Extraction System Overview" by GeoEngineers, Inc. dated June 8, 1988.
- "Progress Report No. 1 - Remedial Action Consultation Services" by GeoEngineers, Inc. dated July 27, 1988.
- "Interim Status Report" by GeoEngineers, Inc. dated October 3, 1988.
- "Work Plan" by GeoEngineers, Inc. dated August 13, 1991.
- "Progress Report No. 2, Remedial Action Consultation Services" by GeoEngineers, Inc. dated January 3, 1991.
- "Supplemental Report of Geoenvironmental Services, Subsurface Contamination Study" by GeoEngineers, Inc. dated July 8, 1992.
- "Report of Geoenvironmental Services, Vapor Monitoring" by GeoEngineers, Inc. dated December 2, 1992.
- "Report of Hydrogeological Services, Slug Testing Results" by GeoEngineers, Inc. dated May 27, 1993.
- "Progress Report No. 3, Vapor Extraction System Monitoring" by GeoEngineers, Inc. dated October 1, 1993.
- "Report of Geoenvironmental Services, Supplemental Site Assessment, Rosen Site" by GeoEngineers, Inc. dated May 27, 1994.
- "Report of Geoenvironmental Services, Results of Ground Water Monitoring" by GeoEngineers, Inc. dated June 10, 1994.
- "Progress Report No. 4, Vapor Extraction System Monitoring" by GeoEngineers, Inc. dated June 15, 1994.

These documents contain information on soil and ground water conditions at the site and adjacent properties. The following is our summary of site conditions based on our review of available reports. Our review of reports regarding the Rosen Property, located directly south of the subject site across Mercer Street, is presented in the section of this report titled "Ecology's Leaking UST Sites Files."

## UNOCAL SITE EVALUATION AND CLEANUP HISTORY

Unocal employees detected a gasoline leak in a product line at Unocal Service Station 5353 in May 1980. The leak location was in the southwestern portion of the site, near the western service island. Unocal estimated that as much as 80,000 gallons of leaded premium gasoline had been released during the 4-month period before the leak was detected. The USTs and the product lines were immediately replaced.

Twenty-five monitoring wells were installed in 1980 to assess the extent of free product floating on the ground water. A free product plume was encountered beneath the Unocal site that extended north to Valley Street, west to Westlake Avenue and south to Mercer Street.

A free product recovery system was installed at the site in June 1980. The recovery system was operated from June 1980 until October 1982. A total of approximately 41,900 gallons of gasoline was recovered during this period.

A subsurface VES was installed at the site in June 1988. The VES has operated from June 1988 to the present. The vapor equivalent of approximately 5,000 gallons of gasoline were estimated to have been recovered by the VES to date.

Eighteen additional monitoring wells were installed in 1991 and 1992 to evaluate the extent of contaminated soil and ground water in the vicinity of the Unocal site. An area of contaminated soil was encountered beneath the Unocal site, extending north to Valley Street, west to Westlake Avenue and south to Mercer Street. Contaminated ground water was encountered beneath the site, and beneath Westlake Avenue, Mercer Street and Terry Avenue. Benzene was detected in monitoring well MW-41 located approximately 400 feet south (upgradient) of the Unocal site. Because MW-41 is located significantly upgradient of the Unocal site, the benzene detected in MW-41 is suspected to originate from an off-site, upgradient source.

Diesel-range fuel hydrocarbons were detected in one soil sample obtained from the north wall of the heating oil UST excavation completed in 1994.

High concentrations of methane are present in the monitoring wells in the vicinity of the site. This methane is suspected to originate from the anaerobic biodegradation of wood-derived waste in the subsurface. The presence of wood waste in the subsurface is described in the following section.

## SUBSURFACE SOIL CONDITIONS

Our interpretation of subsurface soil conditions is based on monitoring well borings completed in the vicinity of the Unocal site and on review of city of Seattle logs of borings drilled in the vicinity. Mixed fill materials consisting of sand, sand with silt, silty sand, silty gravel, silt, and sawdust were encountered in the borings. The fill materials extend to a depth of approximately 35 feet. Little horizontal continuity was observed in the nonsawdust fill units. Fill consisting of sawdust and wood chips was encountered beneath and in the vicinity of the

Unocal site. The sawdust and wood chip zones ranged from several feet to greater than 10 feet in thickness. Native sand with varying amounts of gravel was encountered beginning at a depth of approximately 35 feet in the borings that extended through the fill units.

## **GROUND WATER CONDITIONS**

Ground water is present at depths of 8 to 14 feet beneath the Unocal site. The general direction of ground water flow in the area is toward the northeast, although considerable variation in ground water flow direction occurs in localized areas.

## **SUMMARY OF PHASE I ESA RESEARCH**

### **VISUAL RECONNAISSANCE OF THE STUDY AREA**

A representative of GeoEngineers performed a visual reconnaissance of the site and surrounding area on February 10, 1992 and February 1, 1995. Land use of properties surrounding the subject site, based on our February 1, 1995 site visit, is shown in Figure 3. Figure 4 shows the street names and the address numbering system in the site vicinity. The street names and address numbers shown in Figure 4 are referred to throughout the remainder of this report.

The site is bordered on the west by Westlake Avenue North and on the south by Mercer Street. Terry Avenue North borders the site to the east. An active spur rail line operated by Burlington Northern Railroad is located in the Terry Avenue right-of-way. An auto dealership, Pacific Lincoln-Mercury/Nissan, is located west of the site, across Westlake Avenue North. Auto Service Company Auto Detailing, a vacant building, and Yachts Northwest occupy the property immediately north of the site. This property is currently owned by the city of Seattle. We did not observe the Yachts Northwest or Auto Service Company operations or the interior of their buildings.

West Marine Products is located east of the site across Terry Avenue. A Texaco service station is located between West Marine Products and Boren Avenue North. A construction materials storage yard and a parking area are located north of West Marine Products. The construction materials include unused, bulk roofing materials and paints and are generally stored on pallets. The bulk liquids are generally stored in secured and covered 10-gallon containers within a bermed area. An office building and paved parking area are located south of the site, across Mercer Street. Boat U.S. Marine Supplies and Floral Supply Syndicate and located south of the office building and parking area, respectively. The office building was occupied by Vance Real Estate in 1992. The U.S. Boat retail building was occupied by the Best retail store in 1992.

The Texaco service station is the closest active service station to the site. The auto detailing business (Auto Service Company) north of the site appears to perform oil changing at their facility. The waste oil generated at the auto detailing business is apparently stored in an AST

(aboveground storage tank). In addition to oil changing, the auto detailing business cleans engines by steam cleaning. Rinse water from the steam cleaning operations appears to drain to a nearby storm drain catch basin.

## **HISTORY OF THE SITE AND ADJACENT PROPERTIES**

### **Unocal General Arrangement Drawings**

GeoEngineers reviewed four historical Unocal Service Station general arrangement drawings of the site provided by Unocal. The drawings were dated 1966, 1979, 1980 and 1985. The original base for the four drawings was completed in 1965. The present service station building was constructed in 1965. The service station building originally contained three lube bays and two hydraulic hoists. In 1966 a fourth lube bay was installed. The present station arrangement includes four lube bays, three single-post hydraulic hoists and one dual-post hydraulic hoist. The dual-post hydraulic hoist was installed in 1976. The drawings we reviewed do not indicate when the additional single-post hydraulic hoist was installed.

The original service station layout (1965) included one 280-gallon steel waste oil UST, one 550-gallon steel heating oil UST, two 10,000-gallon steel gasoline USTs and product lines serving four service islands. The 280-gallon steel waste oil UST was apparently replaced with a 550-gallon steel waste oil UST between 1966 and 1977. In 1977, an additional 8,000-gallon steel gasoline UST was installed. The site layout in 1980 is shown in Figure 5. In 1980 the steel gasoline USTs were replaced with four 10,000-gallon fiberglass gasoline USTs at the same location. The steel product lines were replaced with fiberglass product lines in 1980. In 1985, the two western service islands were extended southward. Additional product dispensers were installed on the extended service islands. The present layout includes one 550-gallon steel heating oil UST and one 550-gallon steel waste oil UST, as shown in Figure 2. The steel waste oil and heating oil USTs near the gasoline USTs were relocated to their present location in 1980. The drawings we reviewed do not indicate when the heating oil UST at the northeast corner of the service station building was installed.

### **Unocal Real Estate File**

GeoEngineers reviewed the Service Station 5353 real estate file provided by Unocal. Documents in the file indicate that a brewery and warehouse located on the site were demolished in 1965 prior to construction of Unocal Service Station 5353. Unocal leased the property from Rajah Investment Company from 1965 to 1968. In 1968, Unocal purchased the site from Rajah Investment Company. The restaurant building was constructed on the east side of the site in 1968 and has been operated as a Denny's Restaurant since that time.

### **Aerial Photographs**

We reviewed aerial photographs of the site vicinity dated 1936, 1946, 1956, 1960, 1969, 1974, 1980, 1985 and 1990, provided by Walker and Associates of Seattle, Washington. The scales of these aerial photographs ranged from 1 inch=800 feet to 1 inch=1,500 feet. These

aerial photographs are presented in Appendix A. We also reviewed detailed aerial photographs of the site vicinity dated 1958 and 1970 provided by the City of Seattle Engineering Department. The scales of the detailed aerial photographs were 1 inch=100 feet or 1 inch=200 feet.

Commercial buildings are located at the subject site in the 1936 and 1946 photographs. The area surrounding the site was developed primarily with mixed commercial and light industrial facilities on these dates.

The property directly south of the site across Mercer Street appears to be occupied by a commercial structure on the western portion and a storage yard (1936 to 1960) and paved parking lot (1969 to 1990) on the eastern portion. A small structure that may be a service station is located near the northeast corner of this property in the 1946 to 1960 photographs.

Two ASTs are present in the block northeast of the intersection of 8th Avenue North and Republican Street, approximately 600 feet southwest of the site. The tanks are approximately 100 feet in diameter. These tanks appear in the photographs dated 1936 through 1960, but are absent in the 1969 and subsequent photographs.

Commercial and industrial development became more dense in the area surrounding the site between 1946 and 1956. A service station building is apparent at the southwest corner of Westlake Avenue North and Broad Street in the 1956 photograph. The service station is absent in the 1958 photograph.

The 1958 photograph shows a building configuration similar to a service station at the southeast corner of Westlake Avenue North and Valley Street, immediately north of the site. These buildings are present in all subsequent photographs we reviewed.

Unocal Service Station 5353 and the adjacent restaurant building are visible in the 1969 photograph. A service station was also located on the northwest corner of Boren Avenue North and Mercer Street. These service stations are visible in all of the subsequent photographs we reviewed.

The aerial photographs taken between 1969 and 1990 show relatively little land use change in the area surrounding the site.

### Historical Maps

The following maps of the subject property and surrounding area were reviewed:

- M.C. Sanborn Fire Insurance Maps of various scales dated 1893, 1905, 1917, 1935 and 1950.
- Baist's Real Estate Atlas - Survey of Seattle 1:2400 maps dated 1905 and 1912.

**1893 Map.** The Sanborn map dated 1893 indicates that the site and surrounding area was part of a large shoreline complex labeled "Western Mill Department and Electric Power House." The shoreline of Lake Union is shown on the map at approximately the same locations as the present Valley Street about 160 feet north of the site, and west of Westlake Avenue North to the northwest of the site. The subject property was apparently used as a lumber storage yard and planing mill at the time, according to notations on the 1893 Sanborn map. An area

approximately 300 feet west of the site was labeled as an enclosure used for "refuse burning." The "Model Steam Laundry" is shown at the present site of the southwest corner of Westlake Avenue North and Mercer Street.

**1905 Map.** The Sanborn map dated 1905 map shows the "Brace & Hergert Mill Co." sawmill occupying the entire city block in which the subject property is situated. The location of the Lake Union shoreline did not appear to have changed appreciably since 1893. The city block east of the site across Terry Avenue North was labeled "Western Mill Fact." and "Sash Door & Blind Factory" and the area across Mercer Street to the south of the site is labeled "Wood Yard." A building shown as "Model Steam Laundry" is located on the southwest corner of Westlake Avenue North and Mercer Street on the 1905 map. The map notes that the building was vacant at that time. Two "laundries" southwest of the present intersection of Valley Street and Westlake Avenue North located approximately 300 feet northwest and 350 feet northwest of the site, also are noted on the 1905 map. Information on the Baist's map dated 1905 is similar to the Sanborn map for that year.

**1912 Map.** The Baist's map dated 1912 indicates that the city block east of the site across Terry Avenue North was occupied by "Western Mill Factory" and "City Incinerator #1." The Brace & Hergert Mill Company still occupied the site area. The Baist's map dated 1912 indicates that the shoreline of Lake Union west of the present alignment of Westlake Avenue North had been extended eastward by fill material. The "Planing Mill" and "Lumber Yard" of the Brace & Hergert Mill and the "City Street Department" were situated on fill material that had been extended northward into the lake, north of the present location of Valley Street. A "Laundry" was located approximately 400 feet northwest of the site. The laundries indicated on the 1905 Sanborn and Baist's maps are not shown on the 1912 map. The "Seattle Lighting Company" was situated at the southwest corner of 9th Avenue North and Mercer Street, about 500 feet west of the site.

**1917 Map.** The Brace & Hergert Mill Company appears on the city block in which the site is located in the Sanborn map dated 1917. A restaurant is shown located at the southwest corner of the subject property, within the lumber mill complex. The "City Asphalt Plant" is shown at the northwest corner of Boren Avenue North and Valley Street. The "Municipal Junk Warehouse" is shown at the same location as "City Incinerator #1" on the 1912 map. The former site of the "Western Mill Factory" (east of the subject property across Terry Avenue North) is occupied by two businesses on the 1917 map: "Wagon Painting & Repairing" and "Take Down Manufacturing Co." "Rainier Laundry" appears on the northeast corner of 9th Avenue North and Roy Street, and "Central Wet Wash Laundry" is located on the southeast corner of the same intersection. "Tucker-Hanford Co. Lithographers" is shown on the north side of Rainier Laundry.

**1935 Map.** According to the 1935 Sanborn map, the site was occupied by "Horluck Creameries Inc." and "Century Brewing." "Brace Lumber Company" maintained a planing mill, warehouse and office/paint storage building on the parcel adjacent to the site to the north. The southeast corner of Westlake Avenue North and Valley Street was the location of a service station and restaurant. The service station building was located approximately 150 feet north of the subject property. The city block west of the subject property across Westlake Avenue North is indicated as "Ford Car Sales and Repair."

**1950 Map.** The city block on which the subject property is located did not appear to change significantly between the 1935 and 1950 map dates. The 1950 Sanborn map shows a service station at the southwest corner of Westlake Avenue North and Broad Street, approximately 250 feet northwest of the subject property, and "Belnap Glass Company" was located at the northeast corner of Terry Avenue North and Valley Street. A service station and fuel storage yard are shown on the property located across Mercer Street south of the site.

#### **Historical City Directories**

GeoEngineers reviewed Polk directories for the city of Seattle for the years 1938, 1948-49, 1958, 1968, 1978, 1983, 1988 and 1990-91. The area researched is bounded on the north by Lake Union, on the south by Harrison Street, on the west by 8th Avenue North and on the east by Boren Avenue North. Directory listings were reviewed to identify facilities in the vicinity of the subject property that may have been potential sources of subsurface contamination. Selected data from our review of city directories are summarized in Table 1.

The directory research revealed 19 address locations within the study area where past or existing businesses potentially stored, used or distributed petroleum products. These listings are summarized in Table 2. Several of these businesses were located on properties that are adjacent to the subject site.

A service station was operated by McKales Corporation on property located immediately north of the subject site in the 1938, 1948-49 and 1958 city directories. The address of this service station was listed as 628 or 630 Westlake Avenue North. We reviewed listings for these addresses in city directories for each year after 1958 (1959 through 1966, 1968 through 1972, 1974, 1976 through 1981, 1983 and 1985 through 1989-90). Our review indicates that McKales Corporation was the listed service station operator at this address until 1964. Ben's Westlake Union Service Station was listed at the site in 1965. The property was listed as vacant in 1966 and was listed as Auto Service Company from 1968 until 1990.

Several businesses that apparently stored or distributed petroleum and other fuel products were located on the city block immediately south of the subject site, based on our review of the city directories. Freeman and Lambdin Inc., retailers and wholesalers of fuel products (coal, gas and wood), was located at 961 Mercer Street in the 1938 city directory. Continental Fuel Company was located at the same address in the 1948-49 city directory. Charles Jenks Gas Station was located at 965 Mercer Street in the 1938 and 1948-49 city directories.

No businesses were listed at the address of the Unocal Service Station 5353, 600 Westlake Avenue North, until 1968; however, "Brewery" was listed at 610 Westlake Avenue North in the 1958 directory. The 1968 directory and subsequent directories we reviewed listed 600 Westlake Avenue North as a Unocal service station. The 1990-91 directory listed 600 Westlake Avenue North as "Westlake Union Service."

### **Building Plans**

We researched building plans and information on file with Seattle's DCLU (Department of Construction and Land Use) for the properties within the 800 to 1100 blocks of Mercer and Valley Streets, the 500 to 800 blocks of Westlake Avenue North and Terry Avenue North, and for 960 Republican Street, 601 Boren Avenue North, 950 Westlake Avenue North, and 815 Boren Avenue North. Figure 4 references the street locations and address numbers. Information noted on the plans we reviewed regarding the use or storage of petroleum products is summarized below. We did not locate any files or building plans for the apparent former service stations at 961 or 965 Mercer Street or 619, 623 or 629 Westlake Avenue North.

**600 Westlake Avenue North.** Unocal Service Station 5353 drawings dated 1965, 1977, 1980, 1983 and 1990 were reviewed. These information in these drawings also was provided to us by Unocal and has been previously summarized in this Phase I ESA report in the section entitled "Unocal General Arrangement Drawings."

**628-630 Westlake Avenue North (City of Seattle Property).** Three general arrangement drawings were on file for Union Oil Service Station 0154. The drawings were dated 1932, 1951 and 1959. The 1932 drawing shows the layout of the service station with three USTs, two service islands, a service station building, an auto repair area and a lube bay. The UST contents were not specified and the tanks included a 3,000-gallon UST, a 550-gallon UST and a third UST of unspecified size. The USTs and the service station building were located in the center of the property. The service islands were located along Westlake Avenue and along Valley Street. The lube bay was located near the eastern margin of the property and the auto repair area was in the southeast corner of the property.

The 1951 drawing indicates that a 2,000-gallon fuel UST and a 550-gallon waste oil USTs were added. The service station building appears in the center of the property but is a different building and is in a different location than the 1932 drawing. The lube bay and auto repair areas appear in the same locations as the 1932 drawing. The northern service island, the 550-gallon UST, and the unspecified capacity UST that appear in the 1932 drawing do not appear on the 1951 drawing.

In the 1959 drawing two additional 5,000-gallon fuel USTs were added. The remainder of the facility is the same as the 1951 drawing.



**960 Republican Street (Rosen Property).** Two drawings were available for this area. One drawing is dated 1966 and shows the building located on the southeast corner of Westlake Avenue North and Mercer Street (the Vance Real Estate/Best department store building). Various addresses were used for this building over the years, including 960 Republican and 500, 520, 534 and 536 Westlake Avenue North. The building occupant identified on the drawing is American National Insurance Company. No USTs appear on the drawing, however, a notation in the northeast corner of the building indicates that a "lube pit" at this location was to be removed.

The second drawing is for the area east of the building referenced above; this area extends east to Terry Avenue, north to Mercer Street and south to Republican Street. The drawing is dated May 1993 and reflects a proposal to excavate 500 to 1,500 cubic yards of petroleum-contaminated soil from the northern portion of the property. Notes on the drawing indicate the soil was to be transported to a landfill in Roosevelt, Washington. Additionally, the drawing shows a UST located in the southern portion of the property, about 70 feet north of Republican Street. The contents and size of the UST are not specified on the drawing. "H&A Investments" is denoted as the owner of the property, according to the drawing.

**601 Boren Avenue North (Shell/Texaco Service Station).** Two drawings, dated 1971 and 1983, were included in the DCLU building plans file. The drawings show a Shell service station with USTs, a service station building, two service islands and a lube bay. Information on the 1971-dated drawing indicates that the service station was constructed in about 1967. The service station building was situated in about the center of the property with the two service islands south of the building, along Mercer Street. Two 4,000-gallon gasoline USTs, a 6,000-gallon gasoline UST and an 8,000-gallon gasoline UST were located in the eastern portion of the site, about 30 feet north of Mercer Street. A 550-gallon waste oil UST and a 550-gallon heating oil UST were located near the northeast corner of the building.

The 1983 drawing shows that the waste oil and heating oil USTs, and the 2,000-gallon and 4,000-gallon fuel USTs were to be removed. Three new 10,000-gallon fuel USTs were to be added in the northeast corner of the property.

**609 Westlake Avenue North (William O. McKay Ford).** One drawing, dated 1975, shows a 2,000-gallon diesel UST located north of the automobile dealership building, about 140 feet south of Broad Street. In relation to the Unocal property, the identified location of the UST at this address would be about 150 feet northwest of the Unocal site.

**731 Westlake Avenue North.** One drawing, dated 1976, shows a 2,000-gallon diesel UST located north of the automobile dealership building. In relation to the Unocal property, the identified location of the UST at this address would be about 600 feet northwest of the Unocal site.

**815 Mercer Street (Washington Natural Gas Company).** The Washington Natural Gas Company facilities occupy the block bounded by Mercer Street to the North, 8th Avenue North to the west, Republican Street to the south and 9th Avenue North to the east. Five drawings were reviewed from the DCLU file, dated 1951, 1962, 1964, 1980 and 1987. The 1951 drawing identifies the facility as the Seattle Lighting Company, and the block is occupied by two large "gas holders" (approximately 125 feet in diameter) in the southeast portion, an office building in the southwest portion, a parking area in the northeast portion and a sales building, meter repair shop and valve room in the northwest portion.

The 1962 drawing appears to reflect a complete renovation of the now Washington Natural gas facility. The large gas holders are no longer noted on the drawing. The main facility building occupies the northern half of the block. Parking areas occupy the southeast portion of the block and the repair garage and parking occupy the southwest portion of the block. Eight USTs are shown near the repair garage: a waste oil UST (unspecified capacity), two 6,000-gallon gasoline storage tanks, and five 150-gallon oil storage tanks. The tanks were located in the southeast portion of the property. A gasoline service island is shown directly south of the USTs. The 1964 drawing is an enlargement of the petroleum storage area.

The 1980 drawing reflects a remodel of the first floor of the main building. It appears from the 1980 drawing that the repair shop in the 1962 and 1964 drawings has been removed.

The 1987 drawing indicates that a CNG (condensed natural gas) storage facility and dispenser were added in the southeast portion of the property. The dispenser was located adjacent to the gasoline service island.

**815 Boren Avenue North (South Lake Union Park).** One drawing, dated 1989, was available from DCLU for this address. The drawing reflects a proposal to remove one "gas storage tank." Additionally, an "oil tank" is shown in the northeast corner of the building at this location. It is unclear, based on our review of the drawing, whether the fuel tanks were ASTs or USTs. In relation to the Unocal property, the identified location of the gas tank at this address would be about 500 feet northeast of the Unocal site, and the oil tank about 600 feet northeast of the Unocal property.

**950 Westlake Avenue North (Lake Union Air).** The plan to remodel the fuel system is shown in a 1989 drawing available at DCLU. The drawing indicates that two fuel USTs were to be removed and replaced on the Lake Union Air Property. In relation to the Unocal property, the identified location of the USTs at this address would be about 1,200 feet northwest of the Unocal site.

## Review of Property History Reports

Property history reports were obtained for the area bounded by Valley Street to the north, Terry Avenue to the east, Republican Street to the south and Westlake Street to the south. Additionally, property history reports were obtained for the parcels on the west side of Westlake Avenue North, between Republican and Valley Streets, and the east side of Terry Avenue North from Mercer Street north to the middle point of the block. This area is represented by the following parcels: Lots 1 through 6 of Block 77, Lots 4 through 8 of Block A, Lots 4 through 6 of Block 104, Lots 1 through 14 of Block 94, Lots 1 through 7 of Block 93, Lots 1 through 6 of Block 78 and Lot 6 of Block 1. The block and lot numbers are indicated in Figure 4. The property history reports generally covered the period between 1894 and 1994. Property history report summaries are presented in Appendix E.

A summary of selected property transfer and lease information based on the property history reports is presented in Table 3. Information regarding the potential use of specific properties for petroleum use, storage or distribution is presented below.

<u>Block; Lot</u>	<u>Probable Address</u>	<u>Property Use/Ownership</u>
A	600 Westlake Avenue North	Lease to Union Oil in 1964 and purchase by Union Oil in 1967.
94; 1,2,3 and 4	965 Mercer Street	5-year lease to Richfield Oil Company in 1928.
94; por. of 1	965 Mercer Street	10-year lease to Richfield Oil Company in 1941. Recorded documents reference the use of the property as a service station.
93; 1 and 2	529 Westlake Avenue North	Purchase by William O. McKay Company in 1958.
78; 4 and 5	609 Westlake Avenue North	Purchase by William O. McKay Company in 1923.
78; 4,5 and 6 and 1; 6	609 Westlake Avenue North	Lease to Union Oil Company in 1928. Recorded documents reference lease of all equipment used for dispensing petroleum products.
78; 1	629 Westlake Avenue North	Lease to California Petroleum Corporation in 1927. Recorded documents reference property use for operation of a service station.

<u>Block; Lot</u>	<u>Probable Address</u>	<u>Property Use/Ownership</u>
78; 1, 2 and 3	619-623 Westlake Avenue North	10-year lease to Shell Oil Company in 1946. Recorded documents reference use of the property as a service station.
77; por. of 1, 2, and 3	630 Westlake Avenue North	Lease to Union Oil Company in 1921, 1940, 1948 and 1959. Lease canceled in 1968.

### **Former Property Occupant Interview**

On January 24, 1992 a GeoEngineers representative interviewed Mr. Bill Brace, a former employee of Brace Lumber Company. Mr. Brace is familiar with the long-term history of the subject site and surrounding vicinity. Mr. Brace indicated that Brace Lumber acquired the sawmill site in 1893, prior to which it had been operated by the Denny Mill Company. Mr. Brace did not know the date that the sawmill was constructed. Mr. Brace did not recall any activities or events at the sawmill site that could have contributed to subsurface contamination. Mr. Brace noted that there were numerous old foundations and brick vaults buried in fill beneath the subject property area.

Mr. Brace also indicated that a Shell service station which operated near the corner of Westlake Avenue North and Valley Street released an unspecified quantity of gasoline during the first filling of the station's USTs. He stated that he believed that the Shell station began operating in the 1950s.

### **REGULATORY REVIEW**

#### **EPA and Ecology Lists**

We reviewed Ecology and EPA lists to identify listed sites within a 1/2-mile radius of Unocal Service Station 5353. Ecology and EPA lists are updated on a regular basis by the respective agencies and reprinted approximately quarterly. The sites identified in the lists we reviewed are summarized in Tables B-1 through B-7 and Figures B-1 through B-4 in Appendix B.

**EPA's NPL (National Priorities List, Superfund) dated January 18, 1994.** This list summarizes known contaminated sites that have been assigned a high-priority cleanup status by the EPA. No sites within a 1/2-mile radius of the site are listed.

**EPA's CERCLIS (Comprehensive Environmental Response, Compensation and Liability Information System) list dated January 7, 1994.** This list summarizes suspected or known contaminated sites that have been reported to the EPA. Three listed businesses are located within a 1/2-mile radius of the subject property, as indicated in Table B-1 and Figure B-1.

**EPA's RCRA (Resource Conservation and Recovery Act) Notifiers List dated November 10, 1993.** This list summarizes businesses that currently generate, transport or dispose of hazardous waste. The listing of a facility on the RCRA Notifier list does not imply that it is known to be or suspected to be contaminated. There are 83 listed businesses within a 1/2-mile radius of the subject property, as summarized in Table B-2. The site and adjacent properties are not listed as RCRA Notifiers.

**EPA's FINDS (Facilities Index System) List dated January 6, 1994.** This list is a compilation of all businesses and sites that report to one or more EPA-managed programs. Ninety-seven listed sites are located within a 1/2-mile radius of the subject property, as summarized in Table B-3. The subject site is not listed in FINDS. One business that is located adjacent to the subject site appears on the FINDS list: Pacific Lincoln Mercury, 601 Westlake Avenue North, west of the site.

**Ecology's UST Registration List dated February 22, 1993.** This list summarizes USTs registered with Ecology. Noncommercial fuel oil USTs are generally not required to be registered, and therefore may not be included in the list. Forty-three sites within a 1/2-mile radius of the subject property, including the subject property, are listed as having registered USTs as indicated in Table B-4 and Figure B-2. The adjacent properties are not listed as having registered USTs. The Texaco service station (formerly a Shell service station) located at the northwest corner of Mercer Street and Boren Avenue North (site U12 in Figure B-2) is included in Ecology's UST list. This list is discussed in the "Ecology's Leaking UST Sites Files" section of this report.

**Ecology's Leaking UST Sites List dated January 19, 1994.** This list includes sites reported to Ecology with suspected or confirmed UST releases. Twenty-eight sites within a 1/2-mile radius of the subject property, including the subject property, are listed, as indicated in Table B-5 and Figure B-3. We reviewed Ecology's files for several of the listed leaking UST sites, as described in a subsequent section of this report.

**Ecology's Toxics Cleanup Program Confirmed and Suspected Contaminated Sites List dated October 13, 1993.** This list includes sites with potential or confirmed releases of hazardous materials into the environment. Three sites on this list are located within 1/2 mile of the subject property, as indicated in Table B-6 and Figure B-4.

**Ecology's MTCA (Model Toxics Control Act) Site Register (October 1993 through January 1994).** This periodical lists sites with known or suspected hazardous substance contamination for which Ecology acquires reports and other site-related data and maintains files for public use. The subject site appears in the Site Register. One additional site located within a 1/2-mile radius of the subject property also appears in the Site Register. This site is included in Table B-7 and Figure B-4.

#### **Ecology's Leaking UST Sites Files**

We reviewed the Northwest Regional Office of Ecology's files for the following nine sites:

- Rosen Property, 960 Republican (L27 in Figure B-3).
- Lake Union Air, 950 Westlake Avenue North (site L2 in Figure B-3).
- US West Communications, 800 Fairview Avenue North (site L11 in Figure B-3).
- Shell Oil Company, 601 Boren Avenue North (listed as Texaco in the UST list; site L13 in Figure B-3).
- 800-900 Aloha Street and 753 9th Avenue North sites (three sites at location L15 in Figure B-3).
- Washington Natural Gas, 815 Mercer Street (site L20 in Figure B-3).
- City of Seattle properties, 815 Boren Avenue North and 630 Westlake Avenue North (sites L9 and L10, respectively, in Figure B-3).

We reviewed Ecology's files for these sites in December 1991 or February and March 1994. We also reviewed files for the Rosen property in March 1995. These sites are included in Table B-5 and Figure B-3 in Appendix B.

Information is added to Ecology's files on a regular basis. Additional information may have been added to Ecology's files or may be added to Ecology's files in the future that is pertinent to this project.

**Rosen Property, 960 Republican Street.** This site is located approximately 60 feet south of the Unocal property at location L27 in Figure B-3. We reviewed the following reports in Ecology's files regarding this property:

- "Final Report, Level 1 Environmental Assessment of the Best Warehouse Building, 960 Republican Street, Seattle, WA, " by Enviros for the Seattle Commons dated December 22, 1992.
- "Final Report, Phase II Environmental Assessment of the Rosen Property, 960 Republican Street, Seattle, WA, " by Enviros for the Seattle Commons dated March 12, 1993.
- Letter by Enviros to Mr. Rob Shelton of Seattle Commons dated March 31, 1993.
- "Phase III Soil Remediation" by Enviros for Seattle Commons dated March 25, 1994.
- "Draft Subsurface Investigation, Southwest Corner Property, Mercer Street and Terry Avenue North, Seattle, WA" by SEACOR for Mr. Stan Rosen, H & A Investments, dated April 1, 1994.

- Letter "Assessment of Underground Storage Tank, Ecology Notification Report Number 15754" by Enviro to Mr. Herb Rosen dated May 3, 1994.
- Letter "Geotechnical and Limited Environmental Assessment, 960 Republican Street, Seattle, WA" by AGI Technologies to Mr. Stan Rosen dated June 13, 1994.
- "Draft Heating Oil UST Assessment, 960 Republican Street, Seattle, WA" by AGI Technologies for H & A Investments, dated July 20, 1994.
- Letter "Summary: Independent Remedial Action Program Reporting, 960 Republican Street, Seattle, WA" by AGI Technologies to Washington Department of Ecology dated July 27, 1994.
- Letter to Ecology from Rob Shelton of Seattle Commons dated July 27, 1994.
- Letter: "Rosen Site, Summary of Environmental Cleanup Status" by Hart Crowser to Ecology dated August 1, 1994.
- Interim Status Letter: "Independent Remedial Action Report, Rosen Property, 960 Republican Street, Seattle" by Ecology to Seattle Commons dated August 3, 1994.

We also reviewed two letters from Enviro to Mr. Herb Rosen dated November 4 and November 13, 1993 that were provided to GeoEngineers in October 1993.

The Rosen property is Lots 1 through 7 of Block 94 (Figure 4). This property is upgradient of the Unocal property. The above reports and letters document assessment and remediation activities completed between 1992 and 1994 on the Rosen property. Pertinent information summarized from these reports is presented below:

- A service station and adjacent fuel storage business were located on Lot 1 (961 and 965 Mercer Street). The service station operated between about 1942 and 1963, and the fuel storage operated between the early 1920s and approximately 1967. There were eight 570-gallon USTs associated with the service station. Operators of the fuel storage business included Freeman and Lambdin and Continental Fuel Company. Petroleum-related soil and ground water contamination were identified on the property in the vicinity of these former facilities. Approximately 1,500 cubic yards of vadose-zone contaminated soil were excavated. Residual petroleum contaminated soil at and below the water table remained after excavation activities. Based on the results of February 1994 ground water samples from five monitoring wells installed after the remedial excavation was completed and backfilled, concentrations of TPH (gasoline-, diesel- and heavy oil-range hydrocarbons) in ground water exceeded the MTCA Method A cleanup level at one of the five locations sampled. The TPH concentration in this monitoring well was 1.5 mg/l (diesel), greater than the MTCA Method A cleanup level of 1 mg/l. BETX concentrations were less than cleanup levels.
- A 2,000-gallon heating oil UST associated with the former Best warehouse building was removed in 1994. The UST was located approximately 350 feet south of the Unocal property. Approximately 40 cubic yards of heating oil-contaminated soil was removed during excavation activities. A sheen was observed on ground water in the excavation.

Residual heating oil-contaminated soil remained beneath the foundation of the building; this soil was not excavated. Three soil borings and one monitoring well installed downgradient of the UST after the remedial excavation activities indicated that the extent of residual contamination was limited to within 45 feet of the former UST. Ground water contamination was not evident based on the one downgradient monitoring well sampled.

- The property was purchased by the Seattle Commons. An interim NFA (no further action) under Ecology's IRAP program was issued by Ecology. The interim NFA requires confirmation monitoring of ground water and deed restrictions on the property. The interim NFA letter states that "Ecology has determined that the completed investigations and the excavation of contaminated soil at the Rosen property are reasonable approaches for addressing the identified contamination."

**Lake Union Air, 950 Westlake Avenue North.** This site is located approximately 1,200 feet north of the subject property at location L2 in Figure B-3. The file indicated that petroleum-related contamination was detected in soil surrounding two USTs removed from the site. Eighty-five cubic yards of contaminated soil were excavated. Residual soil contamination remained in the vicinity of the former USTs. Arsenic, chromium and lead were detected in ground water samples obtained from monitoring wells on the Lake Union Air property.

This property was under consideration for purchase by the Seattle Commons. A *de minimis* Consent Decree was signed in 1993 between Ecology and the Seattle Commons regarding this property. The purpose of the consent decree was to provide a framework for protection of "public health, welfare, and the environment from the known release, or threatened release, of hazardous substances or contaminants at, on, or from" the property. The document mandates that the Commons will regularly sample ground water and perform a limited sediment study. The Commons is required to report the results of their future studies, and any new information identified relative to potential sources of contamination, to Ecology.

**US West Communications, 800 Fairview Avenue North.** This site is located approximately 1,000 feet northeast of the subject property at location L11 in Figure B-3. The file indicated that a total of 30,000 cubic yards of petroleum-contaminated soil was removed from this site following the removal of six USTs. A total of 20,000 gallons of petroleum-contaminated ground water was removed from the UST excavation and from two on-site monitoring wells. Concentrations of petroleum-related compounds in ground water samples obtained from downgradient monitoring wells at the site were reported to be less than the MTCA (Model Toxics Control Act) Method A ground water cleanup levels following the completion of cleanup efforts. According to Ecology, residual contamination at this site has been removed.



**Shell Oil Company/Texaco Service Station, 601 Boren Avenue North.** This site is located approximately 250 feet east of the subject property at location L13 in Figure B-3. According to the file, a subsurface investigation completed at this site in 1990 indicated that petroleum-related compounds were present in soil and ground water at concentrations greater than the MTCA Method A soil and ground water cleanup levels. Ground water flow direction was reported to be to the southeast, based on data collected from five monitoring wells installed on the site. The file information indicates that ground water contamination does not appear to extend beyond the Shell/Texaco site property boundaries. File information indicates that no remedial actions have been conducted at this site to date.

**800-900 Aloha Street and 753 9th Avenue North Sites.** This Ecology file includes reports for three separate properties. The properties are City of Seattle Parks and Recreation Maintenance Facility, Bayside Volvo and Westlake Terminals Property. The sites are generally located about 1,000 feet northwest of the subject site at location L15 in Figure B-3. A summary of Ecology's files is presented for each of the sites as follows:

**City of Seattle Parks and Recreation Maintenance Facility, 802 Roy Street.**

The City of Seattle discovered a leaking fuel dispenser at an on-site service shop complex 1992. Two gasoline USTs were removed from the site in March 1993. Petroleum-contaminated soil related to gasoline and heavy oil was present in concentrations exceeding MTCA Method A cleanup levels in the UST excavations. Approximately 225 cubic yards of contaminated soil were removed from the site during UST excavation activities; however, petroleum-contaminated soil and ground water remain on site. On-site sources and potential off-site sources are responsible for contaminated soil and ground water at this site, according to a report in Ecology's files. Specific off-site sources were not identified in the report. Information concerning ground water gradient at this site was not found in the files we reviewed.

**Bayside Volvo, 753 9th Avenue North.** The Bayside Volvo site is located immediately east of the City of Seattle Parks and Recreation site. A gasoline, waste oil and fuel oil UST were removed from the Bayside Volvo site in July 1992. Two test pits were completed on the west side of the site, immediately east of the City of Seattle Parks and Recreation property. Gasoline-range petroleum hydrocarbons were detected in soil at concentrations exceeding the MTCA Method A cleanup level in the test pit explorations and UST excavations. Based on the results of the subsurface explorations and UST excavations, it appears that gasoline-related soil contamination is present beneath a large portion of the site. An off-site source located west of the Bayside Volvo property is suspected to be responsible for the gasoline contamination

at the Bayside Volvo site based on a report in Ecology's file. The report did not identify a specific off-site source potentially responsible for the soil contamination at this site.

**Westlake Terminals Property, 808 to 935 Aloha Street.** Service stations were formerly located at this site, based on information in a Phase I ESA report in Ecology's files. It is uncertain if USTs are currently located on the site. A geophysical survey was completed to evaluate the presence of USTs; however, the results were reported to be inconclusive. Seven monitoring wells were installed to evaluate ground water conditions at the Westlake Terminals Property site during the completion of a subsurface investigation. Gasoline-range hydrocarbons were detected in ground water at concentrations exceeding the MTCA Method A cleanup level beneath the southeastern portion of the site and beneath Aloha Street, south of the site. The direction of shallow ground water flow is toward the east-northeast, toward Lake Union, based on measurements in the monitoring wells. The City of Seattle Parks and Recreation site, located across Aloha Street, is believed to be the source of ground water contamination identified at this site, according to a report in Ecology's files. Remediation activities have not been conducted at the Westlake Terminals Property.

**Washington Natural Gas Site, 815 Mercer Street.** The site is located approximately 1,000 feet west-southwest of the subject property at location L20 in Figure B-3. Five lubricating oil USTs and one waste oil UST were removed from the site in February 1992. Heavy oil-range hydrocarbons were detected in the UST excavations at concentrations exceeding the MTCA Method A cleanup level. An unspecified volume of petroleum-contaminated soil was removed from the site. Heavy oil-range hydrocarbon contamination remains in a sidewall of one of the UST excavations at concentrations exceeding the MTCA Method A cleanup level, according to the files we reviewed. Additional contaminated soil was not removed from this location because underground utilities were located in this area. There was no information concerning ground water conditions at this site in the files we reviewed.

**City of Seattle, 815 Boren Avenue North.** This site is located approximately 600 feet north of the subject property at location L9 in Figure B-3. It is the site of a former asphalt plant that was operated by the City of Seattle. The results of a subsurface investigation completed at this site in 1989 indicated that concentrations of TPH (total petroleum hydrocarbons) greater than the MTCA Method A soil cleanup level were identified in near-surface soil over much of the site. It was reported that the contamination was likely the result of surface spills associated with the operation of the asphalt plant. A geophysical survey was conducted at the site using electromagnetic and ground-penetrating radar techniques to locate suspected USTs. The geophysical survey identified one possible UST immediately east of the site beneath a parking lot

operated by the Seattle Parks Department. This UST was located approximately 80 feet north of Valley Street (approximately 300 feet north of the Unocal property). Concentrations of petroleum-related compounds in samples from four ground water monitoring wells installed in the vicinity of the UST were reported to be less than MTCA Method A ground water cleanup levels.

Notes in the Ecology file for the site indicate the UST located during the 1989 investigation and two other USTs were removed from the site in 1990. The file does not indicate the location of the other two USTs, but it is reported that gasoline- and diesel-range contamination was detected in subsurface soils near the USTs. The Ecology file indicates that approximately 200 cubic yards of petroleum-contaminated soil were excavated from the site and stockpiled for possible disposal at a landfill.

**City of Seattle, 630 Westlake Avenue North.** This site is located adjacent to, and north of, the Unocal property at location L10 in Figure B-3. The contents of the Northwest Regional Office of Ecology's file for this site are included in Appendix C. The file indicates that a total of five USTs were removed from this site in 1990: one 500-gallon steel waste oil UST and four 10,000-gallon steel USTs previously used to store leaded gasoline. Petroleum-related compounds were reported in soil samples obtained from near the USTs at concentrations exceeding Ecology's MTCA Method A soil cleanup guidelines. It was reported that approximately 800 cubic yards of gasoline-contaminated soil were removed from the site, and that an undetermined amount of gasoline-contaminated soil was left in place beneath buildings on the site and possibly beyond the site boundaries. Concentrations of TPH and other petroleum-related hydrocarbons in samples obtained from ground water obtained from the UST excavation were reported to exceed MTCA Method A ground water cleanup guidelines.

## **SURFACE WATER BODIES AND WELLS**

Drinking water in the site vicinity is provided by the City of Seattle's municipal supply. City of Seattle water originates from surface water sources, specifically the Tolt Reservoir and the Cedar River Watershed.

The Public Well Water Supply List for Western Washington dated March 17, 1989 indicates that no public water supply wells are located within a 2-mile radius of the site. Well logs and water well reports for locations within the study area were requested from Ecology. One water well report was received from Ecology. Three dewatering wells were installed near the intersection of 5th Avenue North and Aloha Street in 1991. Because of the distance of these wells from the site, it is unlikely, in our opinion, that conditions at the subject property could significantly affect soil or ground water at the location of the wells. The water well report is included in Appendix D.

Lake Union is located 400 feet downgradient from the site. No other significant intermittent or perennial surface water impoundments or drainages exist near the subject property.

## CONCLUSIONS

It is our opinion that the documented subsurface release of gasoline at Unocal Service Station 5353 is likely the most significant source of the contamination identified beneath the subject property. However, the subject site is located in an area of downtown Seattle that has a long history of commercial and industrial development. It is possible that other past and present businesses in the vicinity of the subject site have contributed to contamination present beneath the subject property and adjacent properties. Furthermore, documented information pertinent to this project may be added in the future to EPA and Ecology databases and files.

Potential sources of soil and ground contamination in the vicinity of the subject site that were identified based on research conducted during this Phase I ESA study are further described in the following paragraphs. Table 2 summarizes the businesses located in the vicinity of the subject property where petroleum products were likely used, stored and/or distributed in the past or present, based on our interpretation of historical directories. Table 4 summarizes the potential sources of contamination we identified in the vicinity of the subject property, based on the information in Table 2 and the other research completed for this Phase I ESA. The approximate locations of the facilities listed in Table 4 are shown in Figure 6.

Based on the locations of these sites relative to the subject site, the direction of ground water flow in the site area (north-northeast), and information regarding confirmed and suspected releases at these properties, in our opinion the most likely off-site sources of contamination that may have impacted the subject site are:

- City of Seattle Property: Former McKales/Unocal service station adjacent to the site to the north (628 Westlake Avenue North/630 Westlake Avenue North).
- Rosen Property: Former Richfield service station and fuel storage yard (Freeman and Lambdin Inc./Continental Fuel) south of the site across Mercer Street (961-965 Mercer Street/960 Republican Street).
- McKays Auto Dealer: Possible former service station that was leased to Union Oil in 1928. Property is located across Westlake Avenue North from the site (609 Westlake Avenue North).
- Former McKays Shell and California Petroleum: Former service stations approximately 200 feet northwest of the site (619-623 Westlake Avenue North/629 Westlake Avenue North).

Other off-site sources identified during our review of aerial photographs, historical maps, historical directories and regulatory review are considered unlikely to have significantly impacted the subject property, in our opinion.

## **CITY OF SEATTLE PROPERTY**

The site immediately north of Unocal Service Station 5353, currently owned by the city of Seattle, was leased by Unocal from 1921 through 1968. McKales Corporation/Union Oil operated a service station at this site from an unknown date prior to 1938 until 1964. Ben's Westlake Union Service Station was listed in the 1965 historical directory at this address. Auto Service Company occupied the site from 1968 until the present time. Subsurface contamination was encountered on this property during removal of five USTs in 1990. This property is located downgradient of the subject property; however, possible releases from USTs on this City of Seattle property may have impacted conditions beneath the Unocal subject property. This opinion is based on (1) the proximity of this site to the subject site, (2) the existence of subsurface utilities in the area that can result in varying ground water flow directions, and (3) the relatively flat gradient beneath the area.

## **ROSEN PROPERTY**

A Richfield service station and a wholesale fuel products supply/distribution business operated on the property directly south of the site between the early 1920s and 1967. Business names listed at this address include Freeman and Lambdin Inc., Continental Fuel Company and Charles Jenks Gas Station. Residual subsurface contamination is present on this property. This property is located upgradient of the subject property. Based on our review of information regarding this site, it is possible that contamination from releases on this property extended off site.

## **MCKAYS AUTO DEALER**

Union Oil leased "petroleum-dispensing" equipment from McKays at 609 Westlake Avenue North in 1928, according to property title history information. The nature of the facility leased by Union Oil is unclear from the information obtained during this Phase I ESA study. No known documented releases at this location were identified during this study. Because of the variable ground water flow direction caused by subsurface utilities and other preferential flow paths, possible releases at this facility could have impacted subsurface conditions beneath the subject property.

## **FORMER MCKAYS SHELL AND CALIFORNIA PETROLEUM**

One or two former service stations were apparently located approximately 200 feet northwest of the site between approximately 1927 to 1947 (629 Westlake Avenue North) and 1947 to 1958 (619-623 Westlake Avenue North). It is unclear from the information reviewed for this Phase I ESA whether there were two separate service station facilities, or one facility that changed addresses over the years. An alleged release of gasoline occurred at the Shell service station; however, no information confirming this possible release was identified during this Phase

I ESA study. Because of the variable ground water flow direction caused by subsurface utilities and other preferential flow paths, possible releases at this location could have impacted subsurface conditions beneath the subject site.

### RECOMMENDATIONS FOR ADDITIONAL RESEARCH

Because EPA and Ecology databases and files are updated regularly, we recommend that agency databases and files be occasionally reviewed in the future for new information that may be pertinent to the findings and conclusions in this report.

### LIMITATIONS

This Phase I ESA report has been prepared for use by Unocal in evaluating site conditions at Service Station 5353 in Seattle, Washington. This report may be made available to lenders, other parties interested in this site and regulatory agencies. The report is not intended for use by others and the information contained herein is not applicable to other sites.

The information presented herein is based on the above-described data and site visits in 1992 and 1995. GeoEngineers has relied upon information obtained from other sources in our description of historical conditions and our review of regulatory files and databases. The available data do not provide definitive information with regard to all past uses, operations or incidents at the site. No additional environmental subsurface explorations or testing was performed at the site for this study.

Within the limitations, scope, schedule and budget, our services have been executed in accordance with generally accepted environmental science practices for Phase I environmental site assessments in this area at the time this report was prepared. No warranty or other conditions, express or implied, should be understood.

We appreciate this opportunity to be of continued service to Unocal. Please call if you have any questions regarding this report.

Yours very truly,

GeoEngineers, Inc.



Dana Carlisle, P.E.  
Senior Engineer



Stephen C. Perrigo  
Principal

NLP:SCP:vvl  
Document ID: 0161013.ESA

TABLE 1 (Page 1 of 5)  
 SELECTED HISTORICAL BUSINESSES  
 IN THE VICINITY OF  
 UNOCAL SERVICE STATION 5353

Address	Year(s) Listed	Business Name
401 8th Avenue North	1948-49	McPherson Furnace & Equipment Co.
	1958	McPherson Furnace & Equipment Co.
	1978	McPherson Furnace & Equipment Co.
	1987-88	Mason Supply Co.
408 8th Avenue North	1958	Glidden Wholesale Paints
	1978	Zephyr Aluminum Co. Product Mfg.
	1987-88	Mosey and Mosey
409 8th Avenue North	1938	Bowser SF and Co. Gasoline Pumps Troy Laundry Machine Co.
413 8th Avenue North	1938	Paper Box Manufacturers Commercial Linen
	1948-49	Keystone Paper Box Co.
415 8th Avenue North	1948-49	Gateway Printing
	1958	Gateway Printing
418 8th Avenue North	1987-88	Criticare Hospital Service NW Biomedical Service
	1948-49	Patent Scaffolding Co.
420 8th Avenue North	1958	Patent Scaffolding Co.
	1978	Harry Sharp & Son Horticulture Shop
	1990-91	Ivey-Seright Photo
424 8th Avenue North	1958	Alpha Cine Laboratory Film Proc.
430 8th Avenue North	1987-88	Giazers Camera Supply
	1948-49	Rich Lumber Company
433 8th Avenue North	1958	City Electric Contractors
	1978	City Electric & Fixture Co. Contractors
	1987-88	Seattle Cine Rentals
	1978	Hyslo Sign Painting WA Color & Chemical Co. Silk Screening
513 8th Avenue North	1968	Rug & Carpet Cleaners
	1988	Vacant
515 8th Avenue North	1987-88	Jay's Custom Polish and Detail
613 8th Avenue North	1938	Schultz Auto Repair
	1948-49	Oil Burner Dealers
706 8th Avenue North	1968	City Light
724 8th Avenue North	1948-49	PSP&L Garage
	1958	PSP&L Garage
400 9th Avenue North	1948-49	Heating Equipment Distributors
	1987-88	Appliance Parts Co.

Notes appear on page 5 of 5.

TABLE 1 (Page 2 of 5)

Address	Year(s) Listed	Business Name
409 9th Avenue North	1937	Mashalls Garage, Used Cars Meakin's Auto Wrecking Co.
427 9th Avenue North	1948-49 1958 1987-88	Engine Equipment Company Pioneer Sand and Gravel Bayless Bindery Inc.
514 9th Avenue North	1938 1948-49	Seattle Gas Co. Plant Seattle Gas Co. Plant and Shop
525 9th Avenue North	1958	Washington Natural Gas
615 9th Avenue North	1948-49	Newton Wrecking
621 9th Avenue North	1948-49	Contactors
701 9th Avenue North	1938 1948-49 1987-88	Mack Truck International Corp. Truck Dealers Frank Kenney Volvo
715 9th Avenue North	1987-88	Frank Kenney Volvo
739 9th Avenue North	1938 1948-49 1987-88	Truck Welding and Equipment Welding and Equipment Manufacturing Multi Craft Sports
753 9th Avenue North	1948-49 1987-88 1990-91	Truck Manufacturers Burkhart Dental Co. Bayside Toyota Burkhart Dental Co.
400 Westlake Avenue North	1938 1948-49 1958 1968 1978	Firestone Auto Supply & Service Firestone Auto Parts Firestone Firestone Firestone
401 Westlake Avenue North	1938 1948-49 1968 1983 1990-91	Williams Burton Gas Station Indian Motorcycles Datsun Auto Sales Regalia Auto Parts NAPA
409 Westlake Avenue North	1948-49	Mullally Used Cars
415 Westlake Avenue North	1958 1983	Volkswagen Autos Westlake Electronic Supply
428 Westlake Avenue North	1983	Repossessed Autos Inc
431 Westlake Avenue North	1987-88	Moon Photo
500 Westlake Avenue North	1958 1983	Paper Products Commercial Car Lease Inc Learning World
503 Westlake Avenue North	1948-49 1958 1968 1983	Machine Works, Metal Bonding Co., Metal Sprayers, Welding Co., Mining Co. Medina Machine Works Transmission Exchange Antique Liquidators

Notes appear on page 5 of 5.



TABLE 1 (Page 3 of 5)

Address	Year(s) Listed	Business Name
510 Westlake Avenue North	1938	Newton Auto Wrecking Co.
529 Westlake Avenue North	1958	William O. McKay Used Cars
	1968	William O. McKay Used Cars
	1978	Pacific Lincoln-Mercury Used Cars
600 Westlake Avenue North	1968	Ben Lundberg's Union Gas Station
	1978	Van's Westlake Union Gas
	1990-91	Westlake Union Service
601 Westlake Avenue North	1958	Lincoln-Mercury Auto Dealers
605 Westlake Avenue North	1987-88	Lincoln-Mercury Auto Dealers
609 Westlake Avenue North	1938	William O. McKay Auto Dealer
	1958	William O. McKay Auto Dealer
	1987-88	First National Auto Lease Co.
619-623 Westlake Avenue North	1948-49	McKay's Shell Service Gas Station
	1958	McKay's Shell Service Gas Station
628 Westlake Avenue North	1938	McKales Inc. Gas Station
629 Westlake Avenue North	1938	Conrad J. Wehr Gas Station
630 Westlake Avenue North		Harry W. Harold Auto Repair
	1948-49 thru 1964	McKale's Corp. Gas Station
	1965	Ben's Westlake Union Service Station
	1966	Vacant
	1968 thru 1990	Auto Service Company
703 Westlake Avenue North	1978	Frank Kinney Toyota
731 Westlake Avenue North	1978	Frank Kinney Toyota
410 Terry Avenue	1938	Rich Lumner Company
	1948-49	Seattle Hardwood Floor Co.
	1958	Georgia-Pacific Corp. Plywood
800 Terry Avenue	1938	Red Devil Coal Co. Fuel
400 Boren Avenue North	1958	North-Robbins Plywood
	1978	North-Robbins Plywood
	1990-91	Kam Electronics
510 Boren Avenue North	1938	Mashalls Garage, Used Cars
		Meakin's Auto Wrecking Co.
	1987-88	Under Construction
511 Boren Avenue North	1990-91	Litho Color Inc.
525 Boren Avenue North	1938	DuPont E.I. deNemours & Co.
		Ammonia & Paints
	1948-49	DuPont
	1958	DuPont
526 Boren Avenue North	1948-49	Lumber Company
	1958	Lumber & Manufacturing
601 Boren Avenue North	1938	Seattle Cabinet Works
	1948-49	Seattle Cabinets
	1968	Shell Gasoline
	1978	Mercer Avenue Shell

Notes appear on page 5 of 5.

TABLE 1 (Page 4 of 5)

Address	Year(s) Listed	Business Name
625 Boren Avenue North	1958	Seattle Disposal Shop
815 Boren Avenue North	1938	City of Seattle Asphalt Plant
	1948-49	City of Seattle Asphalt Plant
	1958	City of Seattle Asphalt Plant
	1968	City of Seattle Asphalt Plant
910 Harrison Street	1983	National Auto Parts
957 Harrison Street	1958	Sherwin-Williams (automotive)
958 Harrison Street	1948-49	Firestone Tire & Rubber Co.
	1958	Firestone Tire & Rubber Co.
	1978	Firestone
959 Harrison Street	1948-49	Sherwin-Williams Paint Manufacturers
	1958	Sherwin-Williams Paint Manufacturers
	1983	Hardwood Collections
	1990-91	Westlake Ministorage
971 Harrison Street	1948-49	Great Northern Railroad Freight House
	1958	Great Northern Railroad
815 Republican Street	1948-49	Electrical Contractors
		Wash Color & Chemical Paint Mfrs.
900 Republican Street	1948-49	Wash Auto Wrecking
1015 Republican Street	1978	Hutchinson's Ink
	1983	Seattle Lithograph Co.
	1990-91	J.E. Michener and Son
1016 Republican Street	1983	Seattle Litho Bindery
	1990-91	Seattle Bindery TNT Die Cutting
1100 Republican Street	1958	Savage Labor & Manufacturing
	1990-91	Savage Building Supply
800 Mercer Street	1983	Artco Sign Co.
		City of Seattle Warehouse
		Electromatic
815 Mercer Street	1978	Washington Natural Gas
961 Mercer Street	1938	Freeman & Lambdin, Inc. Fuel Retailers and Wholesalers
	1948-49	Continental Fuel Co.
	1958	Vacant
965 Mercer Street	1938	Chas Jenks Gas Station
	1948-49	Chas Jenks Gas Station
1000 Mercer Street	1990-91	Marine Products
1001 Mercer Street	1983	Queen City Industries
	1987-88	Westlake Carpet Dist. Inc.
1021 Mercer Street	1958	Building Materials
	1988	Hugh McNiven Company

Notes appear on page 5 of 5.

TABLE 1 (Page 5 of 5)

Address	Year(s) Listed	Business Name
1104 Mercer Street	1958	Grange Wholesale Farm Supply
	1983	USAF Recruiting Seattle Electronics Research
	1990-91	A Sonic Press Inc.
965 Valley Street	1938	Brace Lumber Co.
	1948-49	Brace Lumber Co.
	1958	Brace Lumber Co.
	1978	Brace Lumber Co.
	1990-91	Kenney Marine Inc.
1002 Valley Street	1990-91	NW Seaport
1010 Valley Street	1987-88	Center for Wooden Boats
1110 Valley Street	1958	Hardings Auto Repair
1114 Valley Street	1958	Youngs Standard Fuel Co.
	1983	Abigail's Restaurant
	1987-88	Burger King

Notes:

Sources: Polk's Directories, City of Seattle 1938, 1948-49, 1958, 1968, 1978, 1983, 1987-88 and 1990-91. 628-630 Westlake

Avenue North also was research for 1959-1966, 1968-1972, 1974, 1976-1981, 1983, 1985 and 1989/90.

Business names and addresses appear as they are listed in the directories.

Street locations and address numbers are shown in Figure 4.

TABLE 2 (Page 1 of 2)  
 BUSINESSES IN THE VICINITY OF UNOCAL SERVICE STATION 5353 THAT  
 POTENTIALLY STORED, USED OR DISTRIBUTED  
 PETROLEUM PRODUCTS

Address	Business Name	Year(s) Listed	Approximate Distance From Subject Site (feet)	Potentially Upgradient From Subject Site
409 8th Ave. N.	SF Bowser & Co. Gasoline Pumps	1938	1,300	Yes
613 8th Ave. N.	Schultz Auto Repair Oil Burner Dealers	1938 1948-49	800	No
724 8th Ave. N.	PSP&L Garage	1948-49 1958	1,000	No
514 9th Ave. N.	Seattle Gas Co.  Washington Natural Gas	1938 1948-49 1958	800	Yes
400 Westlake Ave. N.	Firestone Auto Supply & Service	1938 1948-49 1958 1968 1978	1,000	Yes
401 Westlake Ave. N.	Burton Williams Gas Station	1938	1,000	Yes
600 Westlake Ave. N.	Union Gas Station	1968 1978 1990-91	SITE	--
619-629 Westlake Ave. N.	Conrad J. Wehr Gas Station McKay's Shell Service Gas Station	1938 1948-49 1958	200	No
628-630 Westlake Ave. N.	McKale's Inc. Gas Station Ben's Westlake Union Service Station Auto Service Company	1938 thru 1964 1965 1968 thru 1990	Adjacent	No
800 Terry Ave. N.	Red Devil Coal Co. Fuel	1938	400	No
601 Boren Ave. N.	Shell Service Station	1968 1978	250	Yes
815 Boren Ave. N.	City of Seattle Asphalt Plant	1938 1948-49 1958 1968	450	No
958 Harrison St.	Firestone Tire & Rubber Co.	1948-49 1958 1978	1,000	Yes

Notes appear on page 2 of 2.

TABLE 2 (Page 2 of 2)

Address	Business Name	Year(s) Listed	Approximate Distance From Subject Site (feet)	Potentially Upgradient From Subject Site
971 Harrison St.	Great Northern Railroad Freight House	1948-49 1958	1,000	Yes
961 Mercer St.	Freeman & Lambdin, Inc. Fuel Retailers and Wholesalers Continental Fuel Company	1938 1948-49	100	Yes
965 Mercer St.	Chas Jenks Gas Station	1938 1948-49	100	Yes
1114 Valley St.	Young's Standard Fuel Co.	1958	1,000	No

Notes:  
 Sources: Polk's Directories, City of Seattle 1938, 1948-49, 1958, 1968, 1978, 1983, 1987-88 and 1990-91. 628-630 Westlake Avenue North also was researched for 1959-1966, 1968-1972, 1974; 1976-1981, 1983, 1985 and 1989/90.  
 Street locations and address numbers are shown in Figure 4.

TABLE 3 (Page 1 of 3)  
SUMMARY OF SELECTED DOCUMENTS IN TITLE HISTORY REPORTS<sup>1</sup>

Block Number <sup>2</sup>	Lot Number <sup>2</sup>	Seller/Lessor	Buyer/Leasee	Date
94	10	Brace & Hergert Mill Co.	Individual Party	1907
	8,9, 12-14	Brace & Hergert Mill Co.	Dexter Horton & Co., Bankers	1909
	12	Brace & Hergert Mill Co.	Seattle Veterinary Hospital	1909
	11	Brace & Hergert Mill Co.	Individual Party	1908
	8,9, 12-14	Dexter Horton & Co., Bankers	Brace & Hergert Mill Co.	1910
	12	Seattle Veterinary Hospital	Modern Carriage Company	1909
	8-12	Brace & Hergert Mill Co.	Thades Bros. Co.	1916
	1-7	Individual Party	Vance Lumber Co.	1919
	14	Brace & Hergert Mill Co.	Koenig Investment Co.	1919
	10	Rhodes Bros. Co.	Puget Sound Art Glass Co.	1921
	13	Brace & Hergert Mill Co.	Northwest Plumbing Supply Co.	1927
	1-7	Brace & Hergert Mill Co.	Vance Lumber Co.	1922
	13	Northwest Plumbing Supply Co.	Individual Party	1926
	13,14	Premier Candy Co.	National Grocery Co.	1926
	1-4	Individual Party	Richfield Oil Co. of California	1928
	8-12	Rhodes Bros. Co.	Chattan Security Co.	1931
	1	Vance Lumber Co.	Richfield Oil Co. of California	1941
	10	Chattan Security Co.	Foster & Kleiser Co.	1941
	8-12	Chattan Security Co.	Individual Party	1944
	1-7	Vance Lumber Co.	Individual Party	1968
	6,7	Individual Party	N.W. Heath Co., Inc.	1969
	1-7	Individual Party	Herbert I. Rosen	1971
	1-7	Herbert I. Rosen	Jafco, Inc.	1971
13,14	Individual Party	LCF Associates	1974	
8,9	The Emporium, Inc.	Hancock Building Co.	1978	
13,14	Individual Party	Howard Lighting Sales	1980	
1-7	Herbert I. Rosen	Joyce Wynn Dickhaut and Linda Sue Peterson	1981	
93	4	Richmond-Burnett Co.	Individual Party	1906
	5	Individual Party	Pure Milk Dairy, Inc.	1920
	5	Individual Party	W.F. Jahn & Co.	1921
	5	W.F. Jahn & Co.	Individual Party	1921, 1925
	1,2	Individual Party	Northwestern Mutual Fire Association	1934
	1,2	The Joshua Green Corporation	Individual Party	1937
	5	Individual Party	Northwest Baking Co.	--
	7	Northwestern Mutual Fire Association	Individual Party	1944
	5	Individual Party	Zerega Distributing Co.	1951
	5	Individual Party	Zerega Distributing Co.	1954
	1,2	Joshua Green Corp. of Delaware	William O. McKay Co.	1958
	Address <sup>3</sup>	Zerega Distributing Co.	American Express Field Warehousing Corp.	1960
	1,2	The Joshua Green Corporation	Individual Party	1958
	1,2	Individual Party	Nerney Ford Corp.	1979
	1,2	William O. McKay Co.	Individual Party	1986

Notes appear on page 3.

TABLE 3 (Page 2 of 3)

Block Number <sup>2</sup>	Lot Number <sup>2</sup>	Seller/Lessor	Buyer/Leasee	Date
78	4,5	William O. McKay, et ux	McKay Finance Co.	1926
	1	Individual Party	California Petroleum Corp.	1927
	6	William O. McKay, et ux	McKay Finance Co.	1927
	1	California Petroleum Corp.	Individual Party	1927
	1	California Petroleum Corp., a Washn corp.	California Petroleum Corp., a Calif. corp.	1928
	1	The Texas Co., a Calif. corp.	Individual Party	1928
	4,5,6	William O. McKay, Inc.	Union Oil Company of Calif.	1928
	1,2	Individual Party	The Texas Company	1931
	1,2	Individual Party	The Texas Company	1937
	6	McKay Finance Co.	Wm. O. McKay Co., Inc.	1939
	1,2	Individual Party	The Texas Company	1943
	1,2,3	Individual Party	Wm. O. McKay Co., Inc.	1946
	1,2,3	Wm. O. McKay Co., Inc.	Shell Oil Company, Inc.	1946
1	6	William O. McKay, et ux	McKay Finance Co.	1927
	6	William O. McKay, Inc.	Union Oil Company of Calif.	1928
77	1,2,3	State of Washington	Brace and Hergert Mill Co.	1907
	1,2,3	Brace and Hergert Mill Co.	Washington Trust & Savings Bank	1910
	portion of 1,2,3	State of Washington	Northern Pacific Railway Company	1911
	portion of 1,2,3	State of Washington	Dexter Horton Trust & Savings Bank	1915
	portion of 1,2,3	Dexter Horton Trust & Savings Bank	Brace and Hergert Mill Co.	1917
	1,2,3	Brace and Hergert Mill Co.	Union Oil Company of California	1921
	1,2,3	Brace and Hergert Mill Co.	J.S. Brace Inc.	1924
	portion of 1,2,3	Northern Pacific Railway Company	Great Northern Railway Company	1926
	portion of 1,2,3	J.S. Brace Inc.	Seattle Brewing & Malting Company	1939
	1,2,3	J.S. Brace Inc.	Union Oil Company of California	1940
	1,2,3	J.S. Brace Inc.	Union Oil Company of California	1948
	1,2,3	J.S. Brace Inc.	Union Oil Company of California	1959
	1,2,3	J.S. Brace Inc.	The City of Seattle	1971
77 & A <sup>4</sup>	4,5,6	Brace and Hergert Mill Co.	Individual Party	1924
	4,5,6,7,8	Brace and Hergert Mill Co.	Individual Party	1924
		Individual Party	Goetz & Brennen, A Washington Corp.	1926
		Individual Party	Brace Lumber Co.	1926
		Goetz & Brennen, A Washington corp.	Horluck's Inc.	1929
		Individual Party	Horluck Brewing Company	1936
		Brace Lumber Co.	Roy Investment Co.	1937
		Horluck Brewing Company	Seattle Brewing & Malting Company	1939
		Hansen & Rowland Mortgage & Securities	Goetz & Brennen, A Washington corp.	1939
		Goetz & Brennen, A Washington corp.	Seattle Brewing & Malting Company	1939
		Seattle Brewing & Malting Company	Horluck Creameries Inc.	1939
		George Horluck, Inc.	Seattle Brewing & Malting Company	1943
		Seattle Brewing & Malting Company	Horluck Creameries Inc.	1943
		Washmont Corp.	Sicks' Seattle Brewing & Malting Co.	1949
		Sicks' Seattle Brewing & Malting Co.	Ludgren Dealers Supply, Inc.	1957
		Seattle-First National Bank	Ludgren Dealers Supply, Inc.	1962
	Rajah Investment Co.	Union Oil Company of California	1964	

Notes appear on page 3.

TABLE 3 (Page 3 of 3)

Block Number <sup>2</sup>	Lot Number <sup>2</sup>	Seller/Lessor	Buyer/Leasee	Date
77 & A <sup>4</sup>	4,5,6	Union Square, Inc.	Union Oil Company of California	1966
	4,5,6,7,8	Rajah Investment Co.	Union Square, Inc.	1966
		Rajah Investment Co.	Union Oil Company of California	1966
		Rajah Investment Co.	Union Oil Company of California	1967
		Union Square, Inc.	Union Oil Company of California	1967
		Union Oil Company of California	Harold Butler Enterprises #62, Inc.	1967
		Union Oil Company of California	Harold Butler Enterprises #62, Inc.	1986
		Union Oil Company of California	Denny's Inc.	1991
104	4,5,6 <sup>5</sup>	Individual Party	Third Street & Suburban Railway Company	1895
	5,6 <sup>5</sup>	Individual Party	Kraft-Phenix Cheese Corporation	1936
	4	First Realty Inc.	Hugh McNiven Co.	1964
	4	First Realty Inc.	Hugh McNiven Co.	1974
	4	Hugh McNiven Co.	Individual Party	1981
	5,6 <sup>5</sup>	A.H. Rentals	Quality Bakery and Food Brokers, Inc.	1985
	5,6 <sup>5</sup>	The First Christian Church of Seattle	Individual Party	-

Notes:

<sup>1</sup>Title history research performed by Stewart Title of Seattle, Washington. The table summarizes deeds and leases except between individual parties or individual parties-realty firms. Please refer to title history summary reports attached for more detailed information.

<sup>2</sup>Refer to Figure 4 for identification of Block and Lot numbers.

<sup>3</sup>The affected site is listed as an address (515 Westlake) and not a lot number.

<sup>4</sup>Title history data for blocks "77" and "A" do not specify lot numbers for each transaction.

<sup>5</sup>Only the western portion of these lots are included in the title history report.

"-" = information not available



TABLE 4 (Page 1 of 2)  
 POSSIBLE SOURCES OF CONTAMINATION  
 IN THE VICINITY OF UNOCAL SERVICE STATION 5353

Figure 6 Location Number	Figure B-3 Location Number	Address	Business Name	Approximate Years Operated	Approximate Distance From Subject Site (feet)	Potentially Upgradient From Subject Site	Suspected or Confirmed Releases
<b>On Site</b>							
1	None	NE Corner Westlake Avenue North and Mercer Street	Denny Mill Company	1893	-	-	None known
2	None	965 Valley Street	Brace Lumber Company	1893-1935 <sup>1</sup>	-	-	None known
3	None	600 Westlake Avenue North	Unocal Service Station 5353	1965-Present	-	-	Confirmed
<b>Off Site</b>							
4	None	400 Westlake Avenue North	Firestone Auto Supply & Service	1938-Present	1,000	Yes	None known
5	None	401 Westlake Avenue North	Burton Williams Gas Station	Circa 1938	1,000	Yes	None known
6	None	415 Westlake Avenue North	Westlake Electronic Supply Co., Inc.	1968-Present	900	Yes	None known
26	None	609 Westlake Avenue North	William O. McKay Auto Dealer/possible Union Oil Service Station	1923-1958	100	No	None known
7	None	619-623 Westlake Avenue North	McKay's Shell Service Gas Station	1947-1958	200	No	Suspected
8	None	629 Westlake Avenue North	Conrad J. Wehr Gas Station/California Petroleum	1927-1947	200	No	Suspected
9	L10	630 Westlake Avenue North	McKale's, Inc./Union Oil Gas Station	1924-1964	Adjacent	No	Confirmed
10	L10	630 Westlake Avenue North	Auto Service Company	1968-Present	Adjacent	No	Confirmed
11	None	731 Westlake Avenue North	Frank Kenney Toyota Volvo	1968-Present	200	No	None known
12	None	965 Valley Street	Brace Lumber Company	1935-1989 <sup>2</sup>	Adjacent	No	None known
13	L13	601 Boren Avenue North	Shell Service Station	1966-1990	250	Yes	Confirmed
14	L9	815 Boren Avenue North	City of Seattle Asphalt Plant	1912-1975	450	No	Confirmed
15	None	1184 Roy Street	Unknown - ASTs	1935-1950	1,300	No	None known
16	L20	514 9th Ave. North/815 Mercer St.	Seattle Gas Co./Washington Natural Gas	1912-Present	600	Yes	Confirmed
17	None	958 Harrison Street	Firestone Tire & Rubber Company	1938-Present	1,000	Yes	None known
18	None	971 Harrison Street	Great Northern Railroad Freight House	1945-1960	1,000	Yes	None known
19	None	961 Mercer Street	Freeman & Lambdin, Inc. Fuel Retailers & Wholesalers	1935-1945	100	Yes	None known
20	None	961 Mercer Street	Continental Fuel Company	1945-1955	350	Yes	None known
21	L27	965 Mercer Street/960 Republican Street	Rosen Property - Chas. Jenks Gas Station/Richfield Oil Service Station	1928-1951	100	Yes	Confirmed

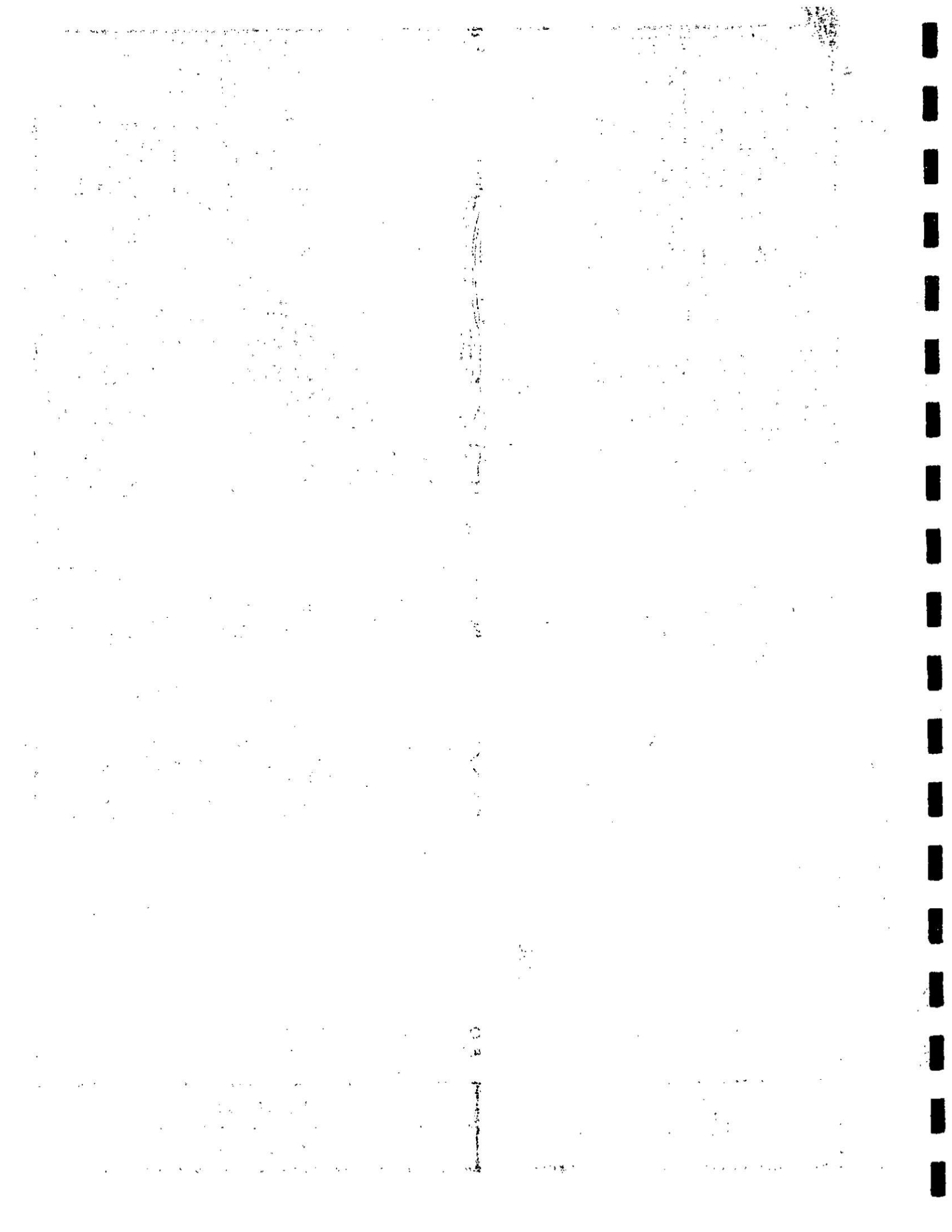
Notes appear on page 2 of 2.

TABLE 4 (Page 2 of 2)

Figure 6 Location Number	Figure B-3 Location Number	Address	Business Name	Approximate Years Operated	Approximate Distance From Subject Site (feet)	Potentially Upgradient From Subject Site	Suspected or Confirmed Releases
22	L15	753 9th Avenue North	Bayside Volvo	1968-Present	600	No	Confirmed
23	None	802 Roy Street	City of Seattle Parks & Rec. Maintenance Facility	1962-Present	800	No	Confirmed
24	L15	808-935 Aloha Street	Westlake Terminals Property	Unknown	1,100	No	Confirmed
25	L25	500 Terry Avenue North	Ivar's Commissary	Unknown	600	Yes	Confirmed

Notes:

<sup>1</sup>Brace Lumber Company ceased operations on the subject site circa 1935, but continued operations adjacent to the subject site until approximately 1989.





REFERENCE: USGS TOPOGRAPHIC QUADRANGLE MAPS "SEATTLE NORTH, WASH.,"  
 PHOTOREVISED 1968 AND "SEATTLE SOUTH, WASH.," PHOTOREVISED 1973.



VICINITY MAP

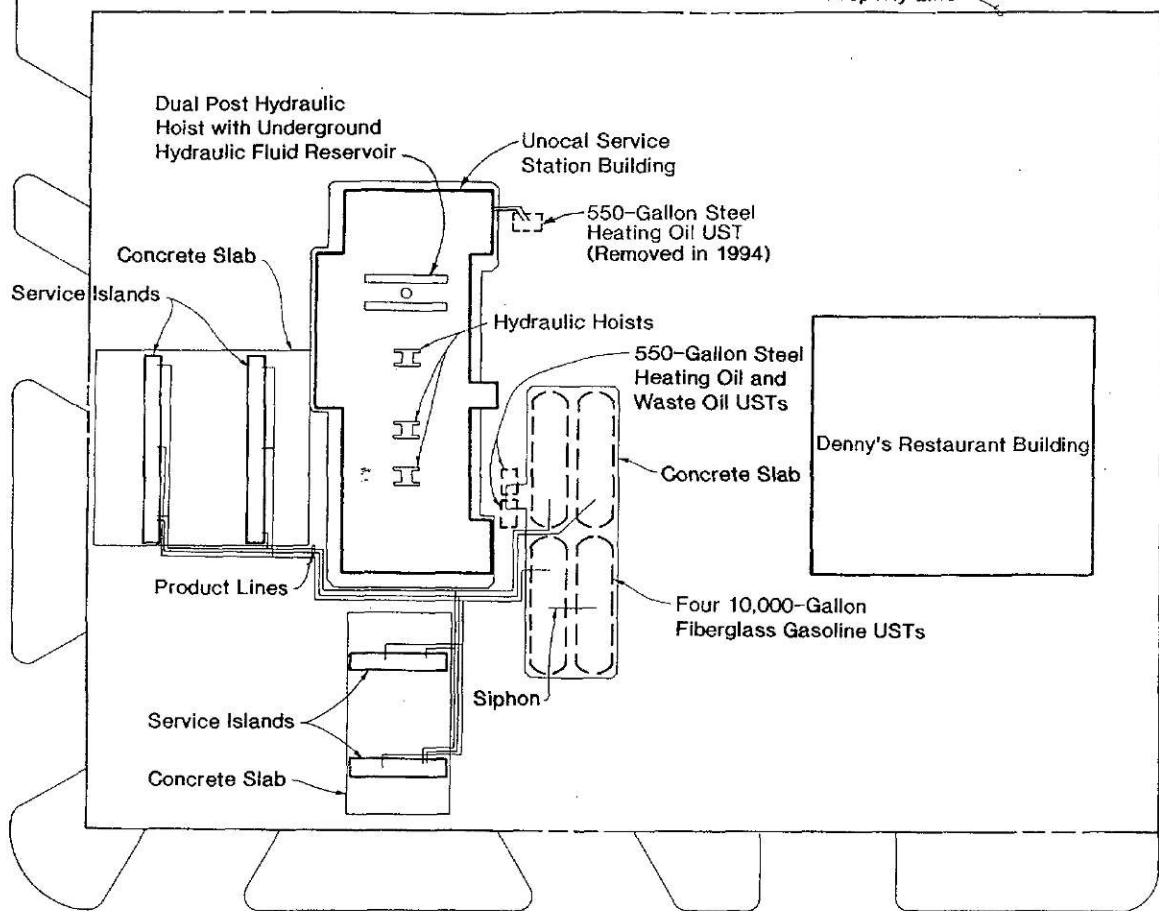
FIGURE 1

0161-013-R04 AMA:KKT 2-13-92

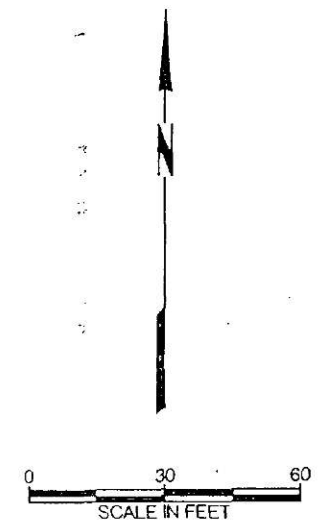
10-1-93

WESTLAKE AVENUE NORTH

Property Line



MERCER STREET



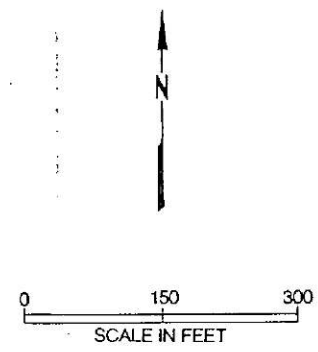
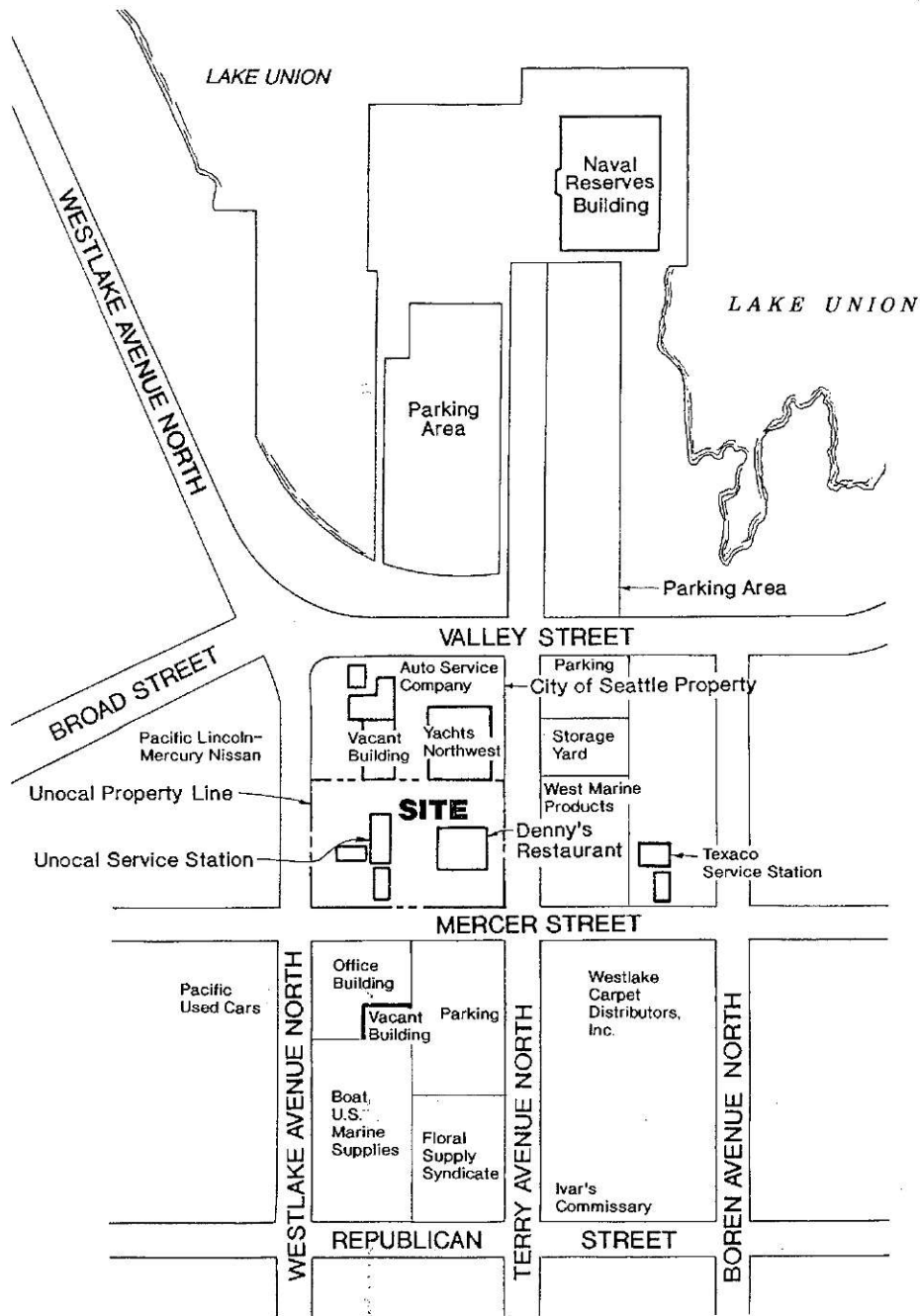
EXPLANATION:

UST UNDERGROUND STORAGE TANK

REFERENCE: DRAWINGS ENTITLED "GENERAL ARRANGEMENT, SERVICE STATION 5353, WESTLAKE AVE. & MERCER ST., SEATTLE WASHINGTON," DATED 03/05/65; AND "TANK & PIPELINE REPLACEMENT PROJECT, SERVICE STATION 5353, WESTLAKE AVE. & MERCER ST., SEATTLE, WASHINGTON," DATED 06/18/80, BOTH BY UNION OIL COMPANY OF CALIFORNIA.



**SITE PLAN**  
**FIGURE 2**



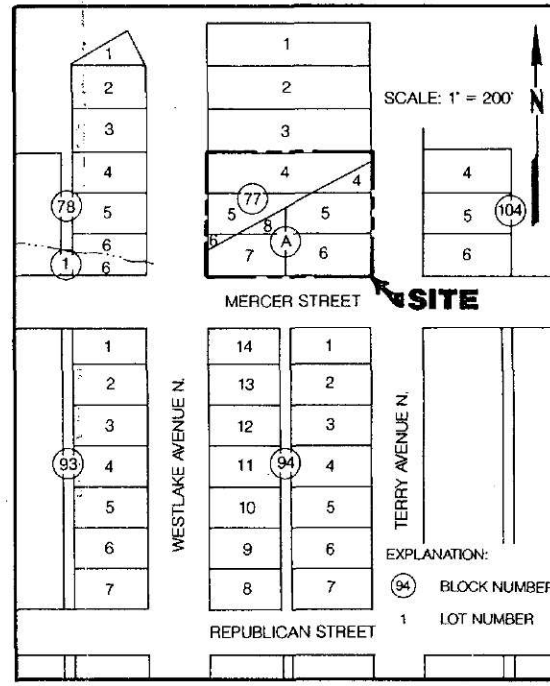
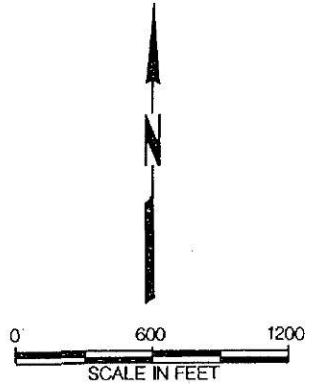
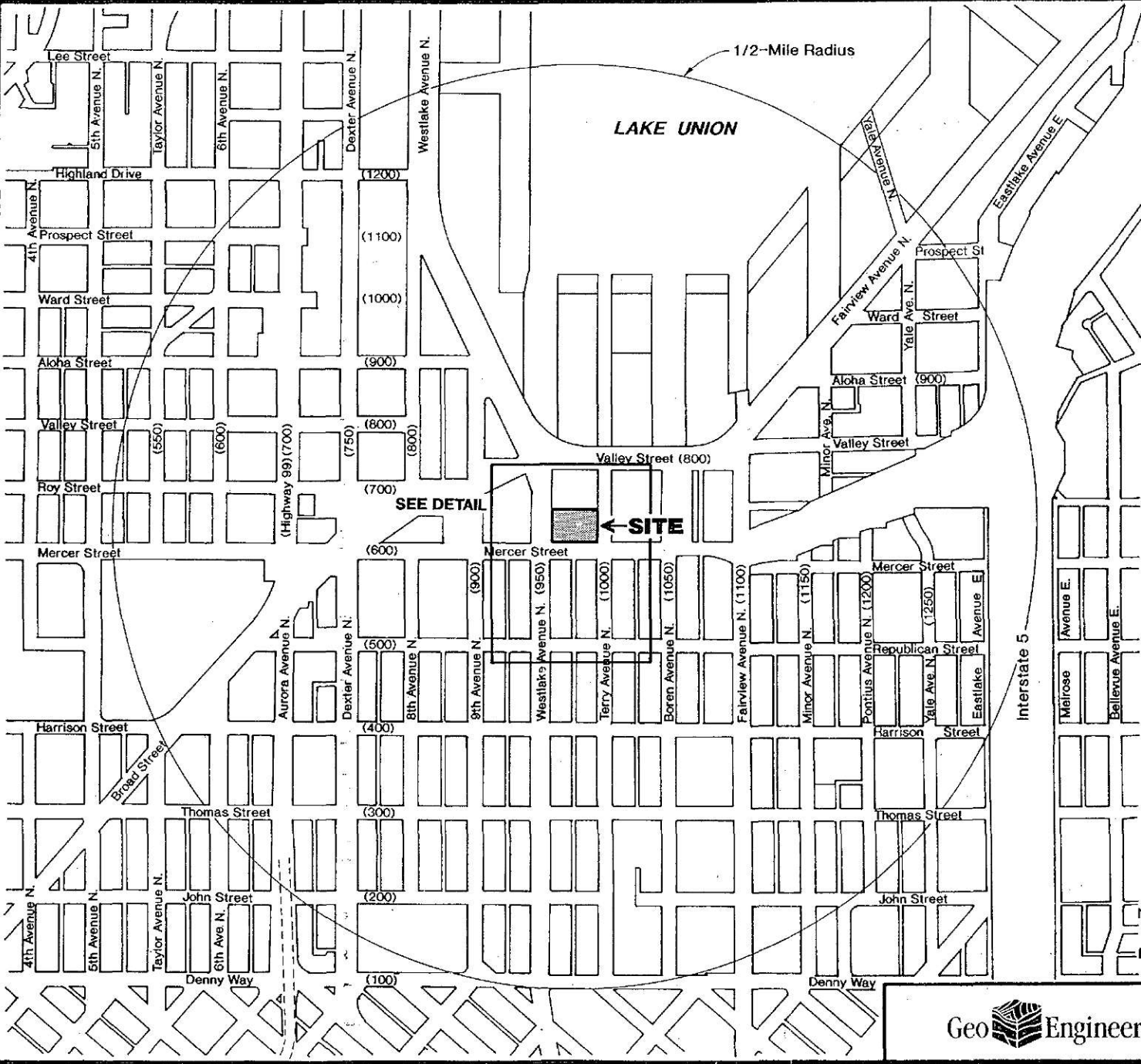
Note: Land use on surrounding properties as of February 1995 is indicated on this figure. Buildings are not shown for most of the surrounding properties.

REFERENCE: CITY OF SEATTLE DEPARTMENT OF ENGINEERING, AERIAL PHOTOGRAPHY OF NE 1/4 OF THE SE 1/4 SEC. 30, T. 25, R.4, W.M.



**SITE AND SURROUNDING PROPERTIES  
FEBRUARY 1995**  
**FIGURE 3**

0161-013-RO4 AMA:MD 01/30/22 (B)



Note: Block and lot numbers shown only for detail area researched in property history reports.

REFERENCE: KROLL 'CITY OF SEATTLE MAP', SCALE 1"=400', UNDATE

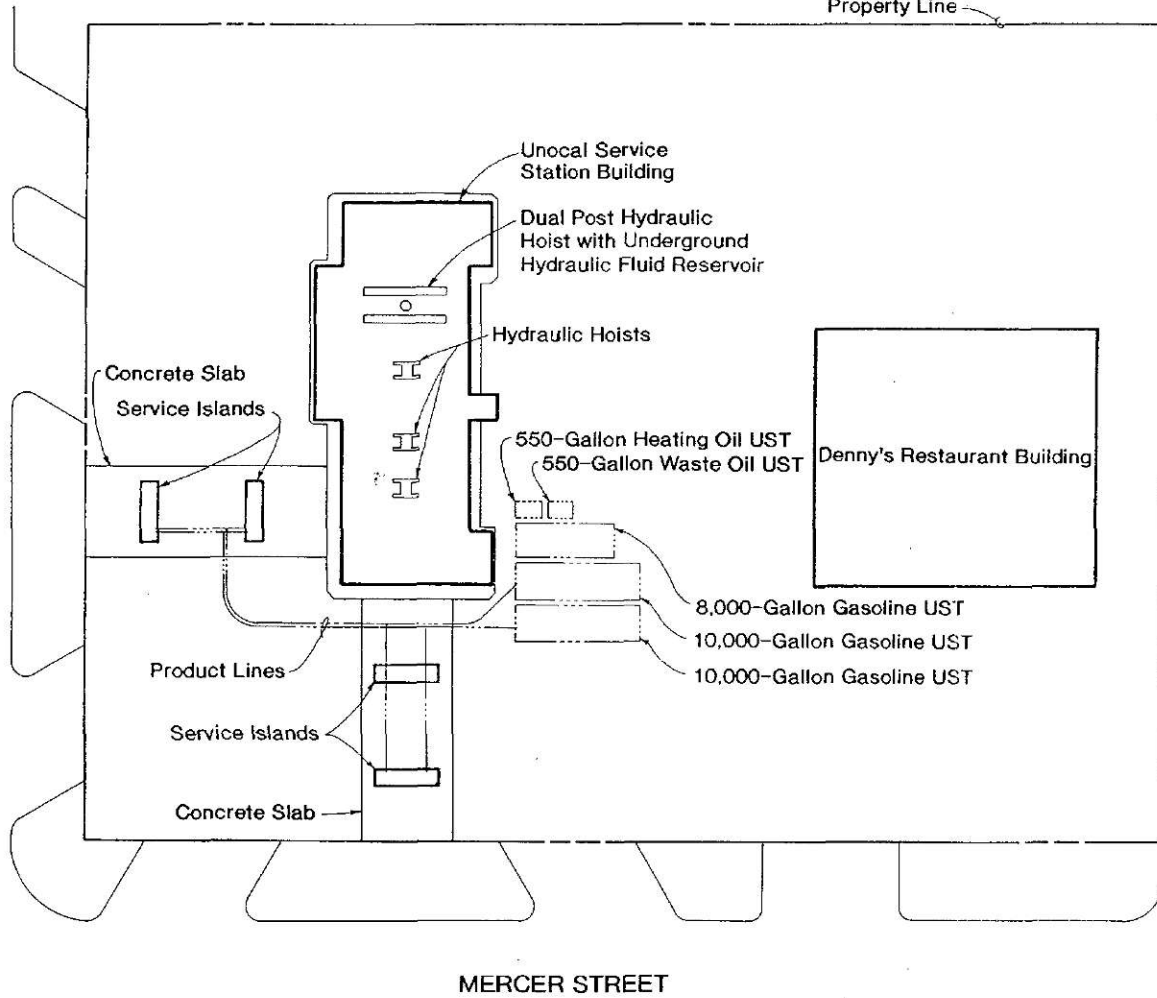


STREETS, ADDRESS RANGES, BLOCK AND LOT NUMBERS

FIGURE 4

WESTLAKE AVENUE NORTH

Property Line



MERCER STREET



EXPLANATION:

UST UNDERGROUND STORAGE TANK

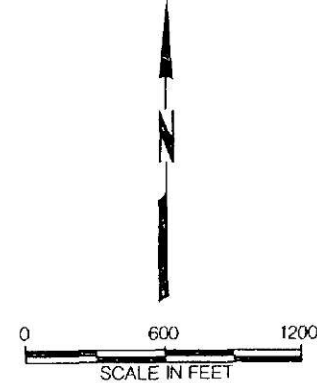
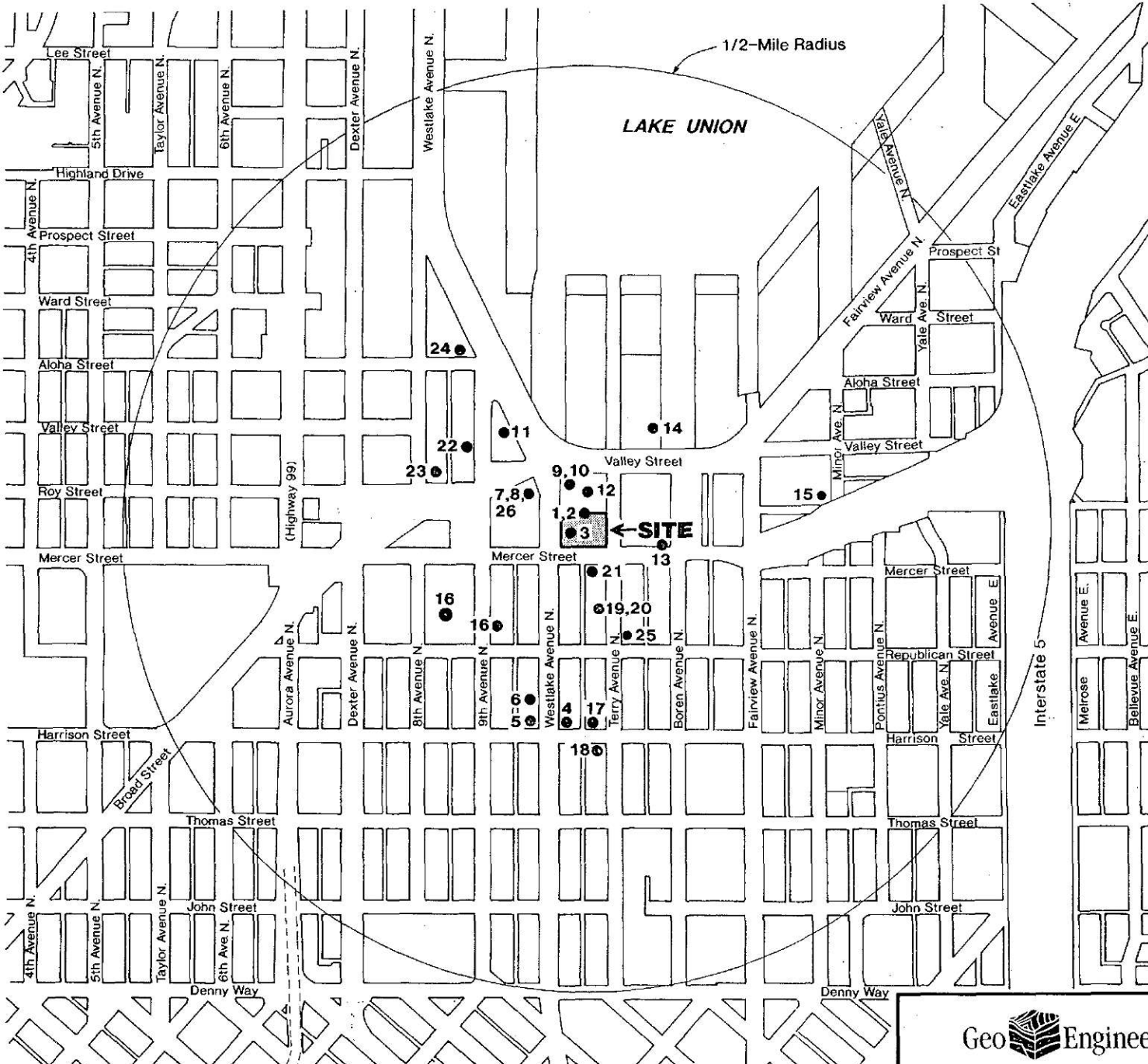
REFERENCE: DRAWING ENTITLED "GENERAL ARRANGEMENT, SERVICE STATION 5353, WESTLAKE AVE. & MERCER ST., SEATTLE, WASHINGTON," BY UNION OIL COMPANY OF CALIFORNIA, DATED 03/05/65.



HISTORICAL SITE PLAN - EARLY 1980

FIGURE 5





EXPLANATION:  
 1,2 ● APPROXIMATE SOURCE LOCATION

Note: Locations correspond to sites listed in Table 3.

REFERENCE: KROLL "CITY OF SEATTLE MAP", SCALE 1"=400', UNDATED

Geo  Engineers

**POSSIBLE SOURCES OF  
 PETROLEUM-RELATED CONTAMINATION**  
**FIGURE 6**