Industrial Properties Inc
VCP NW 1016

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Clayton
GROUP SERVICES

April 21, 2003

Mr. Ben Ives
Industrial Properties, Inc.
P.O. Box 546
Black Eagle, Montana 59414

Clayton Project No. 75-03092.00

Subject: **Underground Storage Tank (UST) Closure and Site Assessment – Industrial Properties Inc., 2450 Sixth Avenue South, Seattle, Washington 98134 (TCP ID# NW1016)**

Mr. Ives:

Please find enclosed one unbound copy of the report entitled *"Underground Storage Tank (UST) Closure and Site Assessment – Industrial Properties, Inc., 2450 Sixth Avenue South, Seattle, Washington 98134 (TCP ID# NW1016)"*. A copy of this report will also be submitted to Ms. Sunny Lin at the Department of Ecology's Voluntary Cleanup Program (VCP).

If you have any questions or comments regarding the project, please contact Akos Fekete or me at (206) 763-7364.

Sincerely,

Greg Ferris

Greg Ferris, MS
Licensed Geologist
Environmental Services
Seattle Regional Office

Cc: Mr. John Houlihan – Short Cressman & Burgess PLLC
Ms. Kim Johnston – Industrial Properties, Inc.
Ms. Sunny Lin – Ecology VCP Project Manager

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Enclosure

Industrial Properties Inc
VCP NW 1016

Underground Storage Tank (UST)
Closure and Site Assessment

Industrial Properties, Inc.
2450 Sixth Avenue South
Seattle, Washington 98134
(Ecology TCP ID# NW1016)

Clayton Project No. 75-03092.00
April 21, 2003

Prepared for:
INDUSTRIAL PROPERTIES, INC.
Auburn, Washington

Prepared by:
CLAYTON GROUP SERVICES, INC.
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Seattle, Washington 98134
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EXECUTIVE SUMMARY

Clayton Group Services, Inc. (Clayton), was retained by Industrial Properties, Inc. to perform underground storage tank (UST) Closure Site and Site Assessment activities for 3 heating fuel USTs located at Industrial Properties, Inc., 2450 Sixth Avenue South, Seattle, Washington.

Clayton conducted subsurface and release investigation activities between November 19, 2002 and January 7, 2003 around the 3 heating fuel USTs at the subject property (Clayton report dated February 11, 2003). Based on the results of the subsurface and release investigation activities and laboratory analytical results, it appears that petroleum releases in the vicinity of UST-1 and UST-3 have occurred. Soil contamination in the vicinity of the USTs has been adequately delineated and is limited to the upper-zone of water table fluctuation. Groundwater contamination in the vicinity of the USTs has been fairly well defined (where access was not limited) and appears to be migrating to the southeast in the vicinity of UST-1 and to the southwest in the vicinity of UST-3. This discrepancy in the direction of groundwater contamination migration is likely caused by heterogeneous subsurface soil conditions, and may reflect different directions of groundwater flow direction beneath the site.

The 3 heating fuel USTs located beneath the concrete slab floor inside the western portion of the Industrial Properties building were decommissioned in-place by Environmental Tank Services, Inc. (ETS) on March 28, 2003. Clayton selected decommissioning in-place since removal of the USTs was impractical and may have jeopardized the structural integrity of the building.

Soil samples collected from below UST-1 and UST-2 indicated that total petroleum hydrocarbon (TPH) as diesel fuel, TPH as gasoline, benzene, toluene, ethylbenzene and xylenes (BTEX), and polycyclic aromatic hydrocarbon (PAH) concentrations were below the State of Washington Department of Ecology (Ecology) Model Toxics Control Act (MTCA) Method A Cleanup Level for each parameter.

The soil sample collected from below UST-3 indicated that TPH as diesel fuel, TPH as gasoline, benzene and xylene concentrations were above the MTCA Method A Cleanup Level for each parameter. Naphthalene was detected at 19 mg/kg, which is above the MTCA Method A Cleanup Level for naphthalene in soil of 5 mg/kg. All other PAH and carcinogenic PAH concentrations were below Ecology's MTCA Method A Cleanup Levels for the sample 032803-S3.

The majority of soil and groundwater impacts detected at the site are located below the footprint of the warehouse building.

Based on the results of the UST decommissioning activities and the subsurface and release investigation, Clayton recommends the following:

- Continue to monitor the free product recovery well and as necessary remove any identified free product.

- Evaluate soil and groundwater remediation alternatives to address the petroleum contamination documented at the site and confer with Ecology to assess the available and recommended remediation alternatives.

- Implement the selected remediation alternative.

1.0 INTRODUCTION

Clayton Group Services, Inc. (Clayton), was retained by Industrial Properties, Inc. to perform underground storage tank (UST) Closure and Site Assessment activities for 3 heating fuel USTs located at Industrial Properties, Inc., 2450 Sixth Avenue South, Washington. The location of the project site is shown on Figure 1.

1.1 PURPOSE

The purpose of this project was to: (1) decommission 3 USTs at the subject property in accordance with applicable local, state and federal regulations; and (2) assess the soil and/or groundwater for potential contamination from the USTs.

1.2 SCOPE OF WORK

Clayton performed the following scope of work as part of the UST decommissioning project:

- Conducted subsurface and release investigation activities in the vicinity of the 3 USTs to assess soil and groundwater conditions (Clayton report dated February 11, 2003).
- Excavated to the top of each UST, cut a hole in the top, and then cleaned and rinsed each UST.
- Visually inspected and documented by photograph the condition of the USTs.
- Cut a hole in the bottom of each UST (near the center) and collected soil samples from below the base of each UST. Field-screened the 3 soil samples collected for volatile organic compounds (VOCs) using a photoionization detector (PID).
- Submitted the 3 soil samples to a laboratory for analysis of total petroleum hydrocarbons (TPH) as diesel fuel and oil using Northwest Method NWTPH-Dx; TPH as gasoline using Northwest Method TPH-G; benzene, toluene, ethylbenzene and xylenes (BTEX) using EPA Method 8021; and polycyclic aromatic hydrocarbons (PAHs) using EPA Method 8270C.
- Documented the decommissioning of the 3 USTs by filling in-place with controlled density fill (CDF).
- Prepared this report summarizing the findings, results of laboratory analyses, conclusions and recommendations.

2.0 PROPERTY DESCRIPTION

The subject property consists of two separate parcels. The first parcel, developed with the Industrial Properties, Inc. warehouse, is located at the northeast corner of Sixth Avenue South and South Lander Street. The 3 heating fuel USTs are located inside the western portion of the building. Figure 2 shows a map indicating the location of the 3 USTs.

The second parcel is a parking lot located east of the railroad tracks (east of the warehouse) and north of South Lander Street. The property has a small storage shed located just north of South Lander Street, which is enclosed by a chain link fence.

2.1 SITE BACKGROUND

Two 1,000-gallon gasoline, and one 10,000-gallon diesel fuel USTs were reportedly excavated, removed and decommissioned from the eastern portion of the subject property during 1994 (O'Sullivan Omega report dated June 13, 1994). These 3 USTs were located in the lot east of the railroad tracks, east of the building at 2450 Sixth Avenue South. The UST site assessment reported that a minor release occurred from the 1,000-gallon gasoline USTs; however, soil concentrations were reported below the State of Washington Department of Ecology (Ecology) Model Toxics Control Act (MTCA) Method A Cleanup Levels. No further action was recommended with respect to the 3 USTs decommissioned during 1994.

Clayton performed a Phase I Environmental Site Assessment (ESA) at the subject property during August and September 2001 (Clayton report dated September 6, 2001) that identified at least 3 heating fuel USTs located underneath the warehouse. The USTs were reportedly installed in the early- to mid-1950s and were most likely of single-walled steel construction. Clayton recommended that a subsurface investigation be conducted in the vicinity of the USTs in order to determine if leakage to the subsurface had occurred.

Clayton conducted subsurface and release investigation activities between November 19, 2002 and January 7, 2003 around the 3 heating fuel USTs at the subject property (Clayton report dated February 11, 2003). The activities consisted of locating subsurface utilities, locating and determining the orientation and size of the USTs, and drilling soil borings to collect samples to assess subsurface environmental conditions in the vicinity of the USTs and delineate any impacts to soil and groundwater. The subsurface investigation confirmed that releases had occurred in the vicinity of 2 of the USTs (UST-1 and UST-3). Free product (heating fuel) was detected floating on the water table in a boring (B5) drilled just north of UST-1. A free product recovery well was installed adjacent to B5 and UST-1 on February 28, 2003 and a free product recovery program was initiated on March 7, 2003. Clayton reported the preliminary results of the subsurface investigation activities to Ecology on November 27, 2002 and provided a follow-up '20 Day Report' to Ecology on December 17, 2002. Correspondence documenting the reporting to Ecology is included in Appendix A.

2.2 PHYSICAL SETTING

The subject property is located at 2450 Sixth Avenue South, Seattle, Washington, approximately 0.25-mile west of Interstate 5 (I-5), 0.6-mile north of Spokane Street, 1.0-mile east of the East Waterway of the Duwamish River, 1.3-miles southeast of Elliott Bay, and 1.5-miles south of downtown Seattle.

The subject property is bordered on the south by South Lander Street, on the west by Sixth Avenue South, on the north by a warehouse and truck maintenance facility, and on the east by railroad tracks (farther east is a warehouse).

The site is located in the SW ¼ of Section 8, Township 24 North, Range 4 East, of the Seattle South Topographic Quadrangle, at an elevation approximately 15 feet above mean sea level. The subject property is located in a relatively flat area, with elevations gradually descending to the west-northwest toward Elliott Bay. Figure 1 shows a partial topographic map of the area indicating the site location.

2.3 REGIONAL GEOLOGY, GROUNDWATER, AND SOIL CONDITIONS

The subject property is located in the Puget Sound Lowland Physiographic Region of Washington. Upland terraces, rolling hills and troughs create north-south ridges that characterize the general area. Elliot Bay and Lake Union drain the downtown Seattle area into Puget Sound.

Prior to 1900, the subject property and adjacent areas were part of the Elliott Bay Tidelands, a shallow swampy area. The tidelands were filled in during the early 1900's. Soils beneath the subject property consist of loosely consolidated sandy silt to silty sand fill. The fill material is likely underlain by silty to clayey shallow water marine deposits associated with the former tidal flat.

The geologic unit underlying the site and vicinity is the Vashon Till, an extremely compacted glacial till of poorly sorted gravels, sands, silts and clays. The compacted nature of the Vashon Till (often called 'hard-pan') resulted from glacial out-wash sediments being over-ridden and subsequently compacted by a transgressing thick sheet of ice. Locally, the Vashon Till may be overlain by a thin veneer of loosely consolidated ablation till and/or thin out-wash, deposited as glaciers in the Puget Sound area regressed. The thickness of the Vashon Till beneath the subject property is unknown. Poor drainage, low permeability and excellent foundation stability characterize Vashon Till.

The regional shallow groundwater flow direction is inferred to be west-northwest towards Elliott Bay, based on surface topography. However, topography is not always a reliable basis for predicting groundwater flow direction. The local gradient under the subject property may be influenced naturally by zones of higher or lower permeability, or artificially by nearby pumping or recharge, and may deviate from the regional trend.

The geology encountered during the subsurface and release investigation activities revealed that the subject property is generally underlain by intermixed sandy silt and silty

sand to approximately 8 feet below ground surface (bgs). A silty clay was encountered from approximately 8 to 10 feet bgs. Below the silty clay, a coarse sand with gravel was encountered from approximately 10 to 12 feet bgs. Groundwater was encountered in the subsurface during the drilling of the soil borings at approximately 7 to 9 feet bgs.

3.0 PETROLEUM STORAGE TANK DECOMMISSIONING

The 3 heating fuel USTs located inside the western portion of the Industrial Properties building were decommissioned in-place by Environmental Tank Services, Inc. (ETS) on March 28, 2003. The following table summarizes the specifications of the USTs:

UST # (Construction Material)	SIZE OF UST	TYPE OF FUEL	UST LOCATION
UST-1 (Steel)	10,000-gal	Heating Fuel	Western Portion of Bldg
UST-2 (Steel)	300-gal	Heating Fuel	Western Portion of Bldg
UST-3 (Steel)	550-gal	Heating Fuel	Western Portion of Bldg

3.1 UNDERGROUND STORAGE TANK CLOSURE

Clayton supervised the removal of approximately 1,200 gallons of heating fuel remaining in the USTs by the Pickering Brothers Company between December 4 – 7, 2002. Approximately 750 gallons of fuel was removed from UST-1, 200 gallons removed from UST-2, and 250 gallons removed from UST-3 for recycling/reuse. Approximately 1 to 2 inches of sludge/fuel that could not be successfully removed remained in the bottom of each UST. Documentation summarizing the removal of fuel from the USTs is included in Appendix A.

The top of UST-1, located beneath the former Far West Taxi office, was approximately 5 feet bgs and the dimensions of the tank were approximately 8 feet in diameter by 30 feet long. The top of UST-2, located just east of UST-1, was approximately 2.5 feet bgs and the dimensions of the tank were approximately 3 feet in diameter by 5 feet long. The top of UST-3, located just inside the garage at the northwest corner of the property, was approximately 2.5 feet bgs and the dimensions of the tank were approximately 4 feet in diameter by 6 feet long. Figure 2 shows a map indicating the location of the USTs.

Excavations were dug to the top of each tank and holes were cut in the top each tank on March 26, 2003 to provide access for cleaning and sampling purposes. Clayton and ETS supervised the cleaning and rinsing of the USTs by Protective Environmental Services (PES) on March 27, 2003. PES removed approximately 600 gallons of residual heating fuel and rinse water and 200 gallons of sludge from the 3 USTs and transported to Petroleum Reclaiming Service, Inc. in Tacoma, Washington for proper disposal.

Appendix A contains a copy of the manifest and bill of lading for the contents removed from the USTs on March 27, 2003.

Mr. Greg Ferris, Licensed Geologist and Certified UST Site Assessor with Clayton, visually inspected the USTs from ground level following the cleaning and rinsing process. The USTs appeared to be in relatively good condition with no obvious signs of corrosion. PES indicated that they did not observe any holes or corrosion inside the 3 USTs during the cleaning and rinsing process.

The City of Seattle Fire Department inspected the USTs on March 28, 2003 and issued a permit to decommission the tanks in-place. Appendix A contains a copy of the permit from the City of Seattle Fire Department to decommission the USTs in place.

ETS filled the USTs in-place using controlled density fill (CDF) on March 28, 2003. Appendix B contains photos of the excavations, USTs, and backfilling process. Appendix C contains the completed UST Closure and Site Assessment Notice and Checklist forms.

3.2 SOIL SAMPLING

A 3-inch diameter hole was cut in the base of each of UST (near the center) by PES on March 28, 2003 following cleaning and rinsing and prior to filling the tanks in-place with CDF. Soil samples were then collected from below each UST by PES using latex gloves and a clean stainless steel spoon. The soil samples were screened in the field for VOCs using a PID.

Soil sample 032803-S1 (S1) was collected from below the bottom of UST-1, approximately 13 to 13.5 feet bgs. The field VOC concentration (PID) for S1 was 24.1 ppm.

Soil sample 032803-S2 (S2) was collected from below the bottom of UST-2, approximately 5.5 to 6 feet bgs. The field VOC concentration (PID) for S2 was 1.4 ppm.

Soil sample 032803-S3 (S3) was collected from below the bottom of UST-3, approximately 6.5 to 7 feet bgs. The field VOC concentration (PID) for S3 was 161 ppm.

The soil sampling locations are shown on Figure 2.

The soil samples collected for field analysis were placed in Zip-Loc plastic bags, sealed, allowed to volatilize for at least 20 minutes, and subjected to headspace analysis using the PID. Clean latex gloves were worn as the soil samples for laboratory analysis were placed into four-ounce glass jars with Teflon-lined lids.

The soil samples collected from below each UST on March 28, 2003, for laboratory analysis, were placed in a cooler on ice and delivered to Friedman & Bruya – Environmental Chemists (F&B) for analyses following standard chain of custody procedures.

3.3 LABORATORY ANALYTICAL RESULTS

The soil samples collected from below each UST on March 28, 2003 (032803-S1 through 032803-S3) were analyzed for TPH as diesel fuel and oil, TPH as gasoline, BTEX and PAHs.

The soil sample collected from below UST-1 (032803-S1) 13 to 13.5 feet bgs, indicated a TPH as diesel fuel concentration of 110 mg/kg, which is below Ecology's Model Toxics Control Act (MTCA) Method A Cleanup Level of 2,000 mg/kg for TPH as diesel fuel and oil in soil. Xylenes were detected in the sample (S1) at 0.03 mg/kg, which is below the MTCA Method A Cleanup Level of 9 mg/kg for xylenes in soil. TPH as gasoline, benzene, toluene and ethylbenzene concentrations were below laboratory reporting limits, which are below the MTCA Method A Cleanup Levels for each parameter. The laboratory analytical results for 033803-S1 indicated PAH and carcinogenic PAH concentrations below Ecology's MTCA Method A Cleanup Levels.

The soil sample collected from below UST-2 (032803-S2) 5.5 to 6 feet bgs, indicated TPH as diesel fuel, TPH as gasoline, BTEX and PAH concentrations below laboratory reporting limits, which are below the MTCA Method A Cleanup Level for each parameter.

The soil sample collected from below UST-3 (032803-S3) 6.5 to 7 feet bgs, indicated a TPH as diesel fuel concentration of 15,000 mg/kg, which is above the MTCA Method A Cleanup Level of 2,000 mg/kg for TPH as diesel fuel and oil in soil. TPH as gasoline was detected in the sample (S3) at 830 mg/kg, which is above the MTCA Method A Cleanup Level of 100 mg/kg for TPH as gasoline in soil. Benzene was detected at 0.27 mg/kg, which is above the MTCA Method A Cleanup Level of 0.03 mg/kg for benzene in soil. Xylenes were detected at 24 mg/kg, which is above the MTCA Method A Cleanup Level of 9 mg/kg for xylenes in soil. Ethylbenzene was detected at 4.4 mg/kg, which is below the MTCA Method A Cleanup Level of 6 mg/kg for ethylbenzene in soil. The toluene concentration was below laboratory reporting limits (<0.02), which is below the MTCA Method A Cleanup Level of 7 mg/kg for toluene in soil. The laboratory analytical results for 033803-S3 indicated the detection of naphthalene at 19 mg/kg, which is above the MTCA Method A Cleanup Level for naphthalene in soil of 5 mg/kg. All other PAH and carcinogenic PAH concentrations were below Ecology's MTCA Method A Cleanup Levels for each parameter.

Tables 2 and 3 provide a summary of the laboratory analytical results for the soil samples collected below the USTs on March 28, 2003, and the laboratory analytical report is included in Appendix D. Figure 2 shows the soil sample locations below each UST.

4.0 SUBSURFACE AND RELEASE INVESTIGATION SUMMARY

Clayton conducted subsurface and release investigation activities between November 19, 2002 and January 7, 2003 around the 3 heating fuel USTs at the subject property (Clayton report dated February 11, 2003).

The soil sampling results in the vicinity of UST-1 indicated the detection of TPH as diesel fuel ranging from <50 mg/kg to 20,000 mg/kg, which is above Ecology's MTCA Method A Cleanup Level of 2,000 mg/kg for diesel fuel in soil. Soil contamination in the vicinity of UST-1 above MTCA Method A Cleanup Levels has been delineated and is limited vertically to the zone just above the water table (approximately 11 to 12 feet bgs). The soil contamination appeared to be present only in the upper-most zone of historical water table fluctuation at the site.

Groundwater sampling results in the vicinity of UST-1 indicated the detection of TPH as diesel fuel ranging from <250 ug/l to 220,000 ug/l, which is above Ecology's MTCA Method A Cleanup Level of 500 ug/l for diesel fuel in groundwater. Free product was also observed in the groundwater sample collected from boring B5, drilled just north of UST-1. Groundwater contamination in the vicinity of UST-1 has been delineated to the south, north and west, but not to the east. However, TPH as diesel fuel concentrations in groundwater east of UST-1 decrease steadily with distance away from the tank. The origin of petroleum hydrocarbons detected in the vicinity of UST-1 may be associated with past overfills (when the site tube, located inside the former Far West Office, was apparently used as the fill port) or from product line leaks.

The soil sampling results in the vicinity of UST-2 indicated the detection of TPH as diesel fuel ranging from <50 mg/kg to 2,700 mg/kg, which is above Ecology's MTCA Method A Cleanup Level of 2,000 mg/kg for diesel fuel in soil. Soil contamination in the vicinity of UST-2 above MTCA Method A Cleanup Levels has been delineated and is limited vertically to the zone just above the water table (approximately 11 to 12 feet bgs). The soil contamination appeared to be present only at the west end of UST-2 and in the upper-most zone of historical water table fluctuation at the site.

Groundwater sampling results in the vicinity of UST-2 indicated the detection of TPH as diesel fuel ranging from 2,500 ug/l to 22,000 ug/l, which is above Ecology's MTCA Method A Cleanup Level of 500 ug/l for diesel fuel in groundwater. Groundwater contamination detected in the vicinity of UST-2 appears to be related (or possibly commingled) with the release detected in the vicinity of UST-1.

The soil sampling results in the vicinity of UST-3 indicated the detection of TPH as diesel fuel ranging from <50 mg/kg to 21,000 mg/kg, which is above Ecology's MTCA Method A Cleanup Level of 2,000 mg/kg for diesel fuel in soil. Soil contamination in the vicinity of UST-3 above MTCA Method A Cleanup Levels has been delineated to the west, north and east and is limited vertically to the zone just above the water table (approximately 7 to 9 feet bgs). The soil contamination appeared to be present only in the upper-most zone of historical water table fluctuation at the site. Soil contamination to the south of UST-3 could not be fully delineated due to the presence of active offices, but likely does not extend more than 20 feet south of the tank.

Groundwater sampling results in the vicinity of UST-3 indicated the detection of TPH as diesel fuel ranging from <250 ug/l to 490,000 ug/l, which is above Ecology's MTCA Method A Cleanup Level of 500 ug/l for diesel fuel in groundwater. Groundwater

contamination in the vicinity of UST-3 has been delineated to the east and west, but not fully to the north (adjacent building) and south (offices). However, TPH as diesel fuel concentrations in groundwater southwest of UST-3 decrease steadily with distance away from the tank. The origin of petroleum hydrocarbons detected in the vicinity of UST-3 may be associated with past overfills or from product line leaks.

Table 1 provides a summary of the PID field screening results for the soil samples collected during the subsurface and release investigation activities. Table 2 provides a summary of the TPH and BTEX results for soil and groundwater samples collected during the subsurface and release investigation activities. Tables 3 and 4 provide a summary of the PAH results for soil and groundwater samples collected during the subsurface and release investigation activities.

Figure 3 shows a map of the UST areas indicating the horizontal extent of TPH as diesel fuel in soil above Ecology's MTCA Method A Cleanup Level of 2,000 mg/kg. Figure 4 shows a map of the UST areas indicating the horizontal extent of TPH as diesel fuel in groundwater above Ecology's MTCA Method A Cleanup Level of 500 ug/l.

Based on the results of the subsurface and release investigation activities and laboratory analytical results, it appears that petroleum releases in the vicinity of UST-1 and UST-3 have occurred. Soil contamination in the vicinity of the USTs has been adequately delineated and is limited to the upper-zone of water table fluctuation (11 to 12 feet bgs inside the building and 7 to 9 feet bgs outside the building). Groundwater contamination in the vicinity of the USTs has been fairly well defined (where access was not limited) and appears to be migrating to the southeast in the vicinity of UST-1 and to the southwest in the vicinity of UST-3. This discrepancy in the direction of groundwater contamination migration is likely caused by heterogeneous subsurface soil conditions, and may reflect different directions of groundwater flow direction beneath the site.

? cross section

5.0 CONCLUSIONS AND RECOMMENDATIONS

Three heating fuel USTs located beneath the concrete slab floor inside the western portion of the Industrial Properties building were decommissioned in-place by Environmental Tank Services, Inc. (ETS) on March 28, 2003.

Soil samples collected from below UST-1 and UST-2 indicated TPH as diesel fuel, TPH as gasoline, BTEX and PAH concentrations below Ecology's MTCA Method A Cleanup Level for each parameter.

The soil sample collected from below UST-3 indicated a TPH as diesel fuel, TPH as gasoline, benzene and xylene concentrations above the MTCA Method A Cleanup Level for each parameter. Naphthalene was detected at 19 mg/kg, which is above the MTCA Method A Cleanup Level for naphthalene in soil of 5 mg/kg. All other PAH and carcinogenic PAH concentrations were below Ecology's MTCA Method A Cleanup Levels for the sample 032803-S3.

The majority of soil and groundwater impacts detected at the site are located below the footprint of the warehouse building.

Based on the results of the UST decommissioning activities and the subsurface and release investigation, Clayton recommends the following:

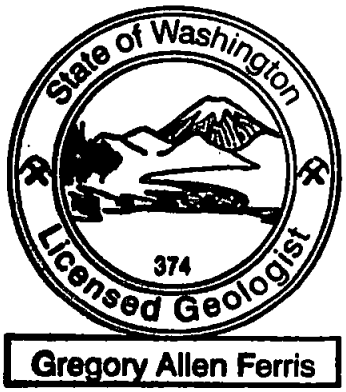
- Continue to monitor the free product recovery well and as necessary remove any identified free product.
- Evaluate soil and groundwater remediation alternatives to address the petroleum contamination documented at the site and confer with Ecology to assess the available and recommended remediation alternatives.
- Implement the selected remediation alternative.

6.0 LIMITATIONS

The information and opinions rendered in this report are exclusively for use by Industrial Properties, Inc. Clayton will not distribute this report without your consent except as may be required by law or court order. The information and opinions expressed in this report are given in response to our limited assignment and should be evaluated and implemented only in light of that assignment. We accept responsibility for the competent performance of our duties in executing the assignment and preparing this report in accordance with the normal standards of our profession but disclaim any responsibility for consequential damages.

This report prepared by: _____

Greg Ferris, MS
Licensed Geologist
Environmental Services
Seattle Regional Office



This report reviewed by: _____

Akos Fekete, RG
Manager
Environmental Services
Seattle Regional Office

FIGURES

Portion of 7.5–minute Series
Topographic Map
United States Department of the Interior
Geological Survey

Seattle South, Washington Quadrangle
1983
Scale 1:25,000

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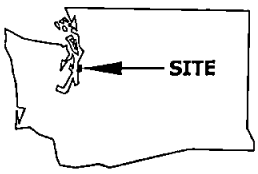


QUADRANGLE LOCATION

Figure 1 Site Location	Clayton GROUP SERVICES	Industrial Properties 2450 Sixth Avenue South Seattle, Washington 98134	
		Clayton Project 75–03092.00	Industrial Properties

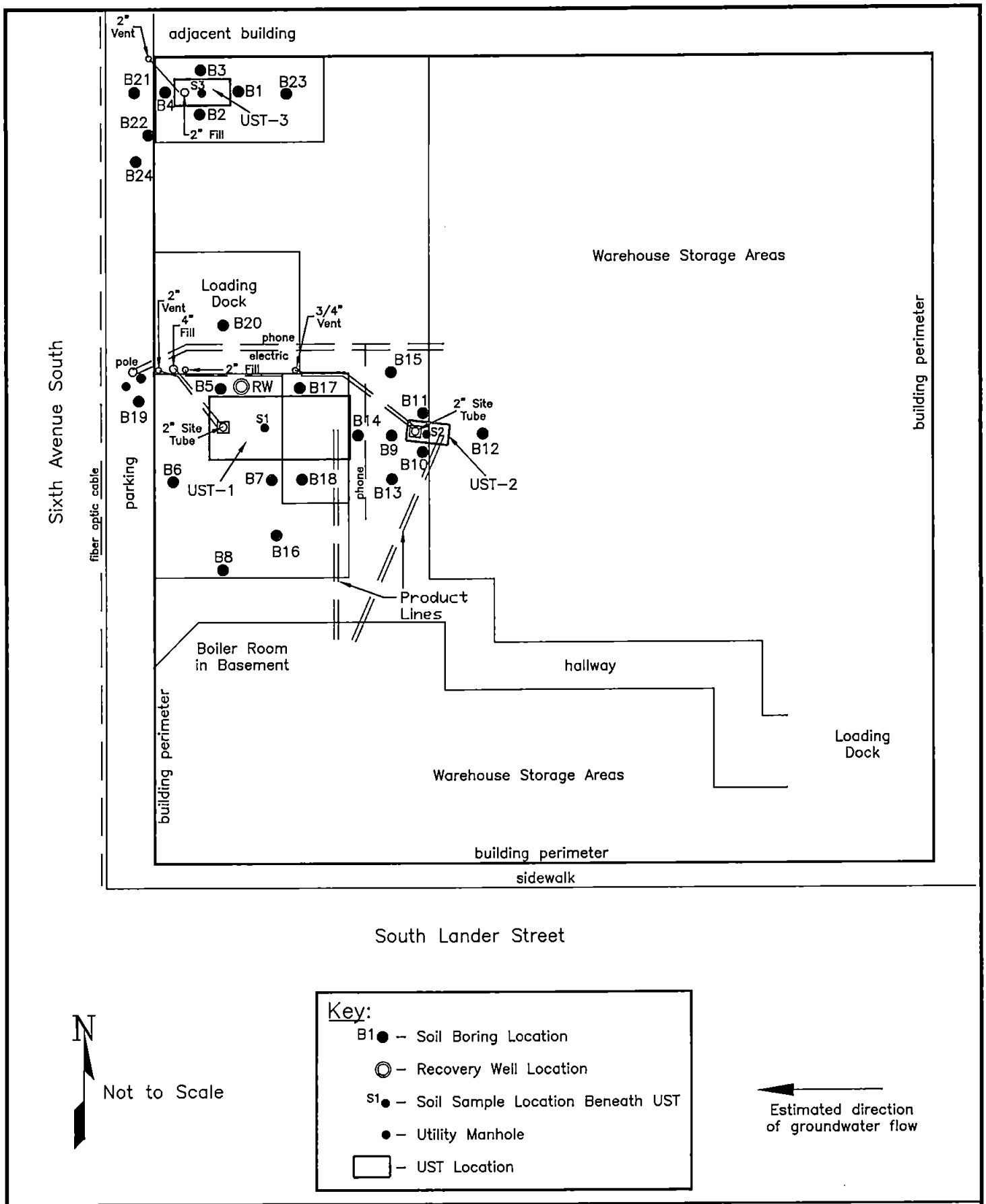


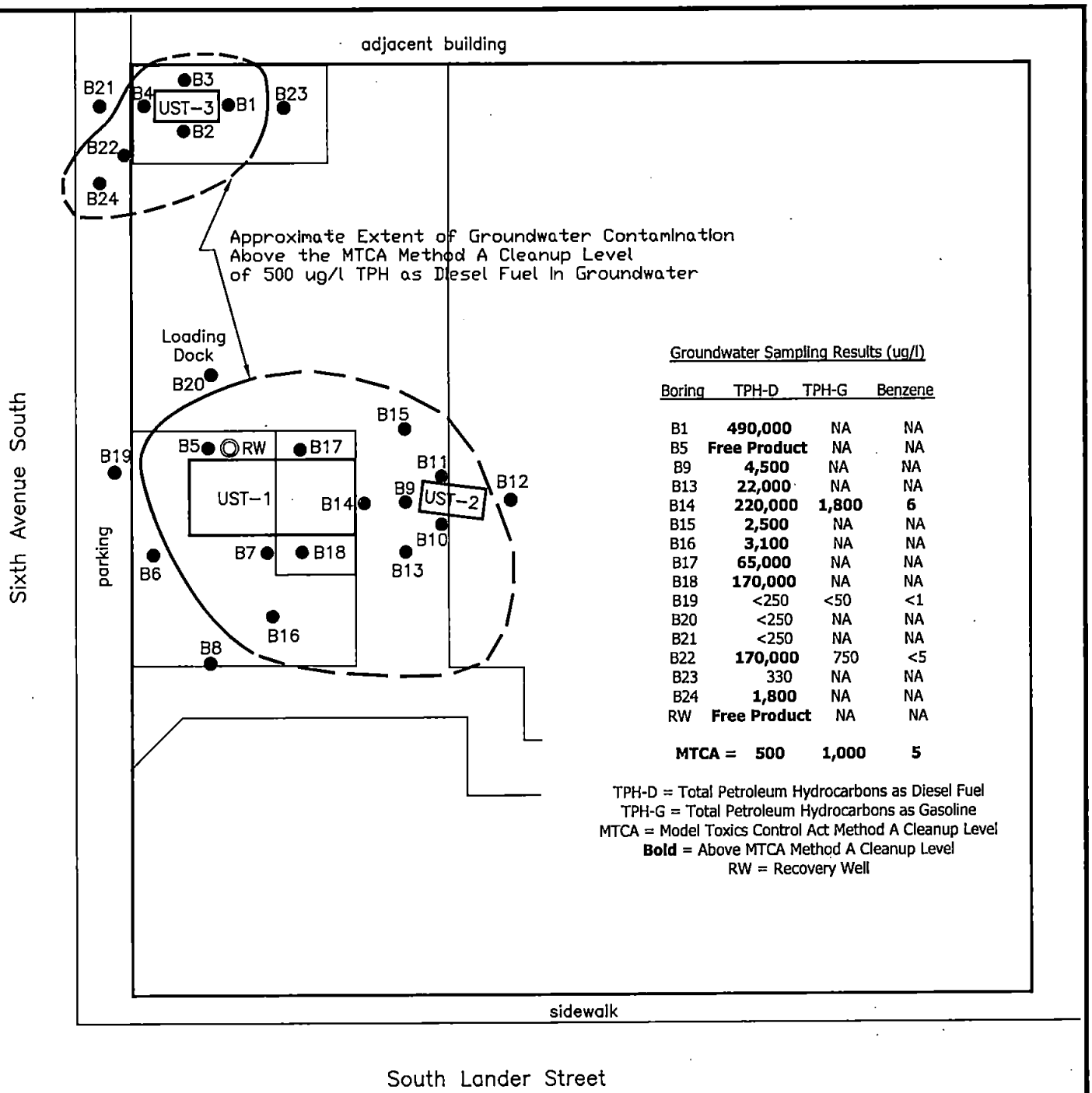
Figure 2

USTs and Borings Location Map

Clayton GROUP SERVICES

Industrial Properties
2450 Sixth Avenue South
Seattle, Washington

Clayton Project No. 75-03092.00 | Industrial Properties



Groundwater Sampling Results (ug/l)

Boring	TPH-D	TPH-G	Benzene
B1	**490,000**	NA	NA
B5	**Free Product**	NA	NA
B9	**4,500**	NA	NA
B13	**22,000**	NA	NA
B14	**220,000**	**1,800**	**6**
B15	**2,500**	NA	NA
B16	**3,100**	NA	NA
B17	**65,000**	NA	NA
B18	**170,000**	NA	NA
B19	<250	<50	<1
B20	<250	NA	NA
B21	<250	NA	NA
B22	**170,000**	750	<5
B23	330	NA	NA
B24	**1,800**	NA	NA
RW	**Free Product**	NA	NA
MTCA =	**500**	**1,000**	**5**

TPH-D = Total Petroleum Hydrocarbons as Diesel Fuel
TPH-G = Total Petroleum Hydrocarbons as Gasoline
MTCA = Model Toxics Control Act Method A Cleanup Level
Bold = Above MTCA Method A Cleanup Level
RW = Recovery Well

N

Not to Scale

Key:

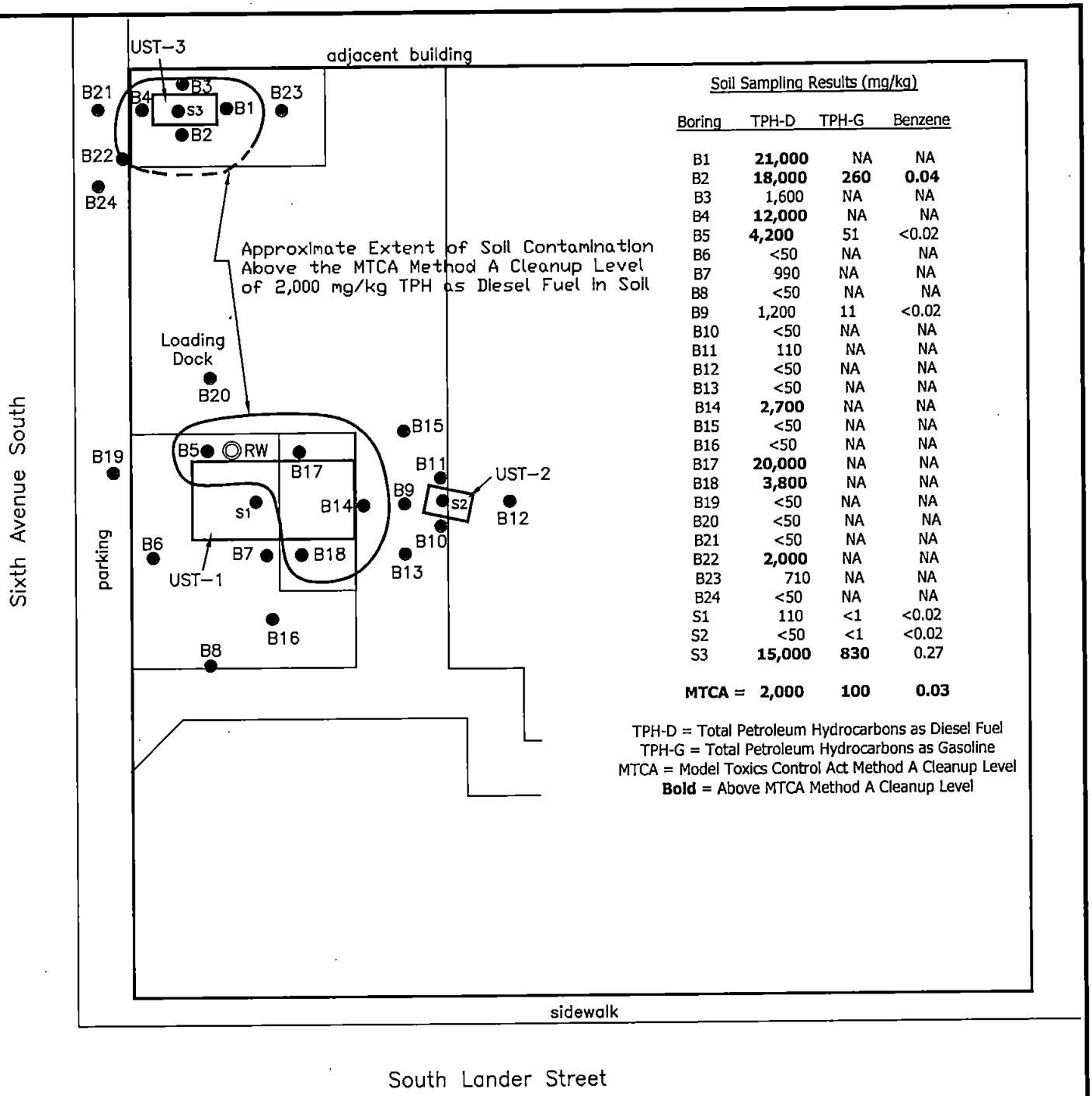
B14 ● – Soil Boring (Above MTCA Method A for Groundwater)

B6 ● – Soil Boring (Below MTCA Method A for Groundwater)

— – Approximate Extent of Groundwater Contamination Above 500 ug/l TPH as Diesel Fuel (MTCA Method A)

Estimated direction of groundwater flow

Figure 4 Diesel Fuel in Groundwater Concentration Map	Clayton GROUP SERVICES	Industrial Properties 2450 Sixth Avenue South Seattle, Washington	
		Clayton Project No. 75-03092.00	Industrial Properties



Soil Sampling Results (mg/kg)

Boring	TPH-D	TPH-G	Benzene
B1	**21,000**	NA	NA
B2	**18,000**	**260**	**0.04**
B3	1,600	NA	NA
B4	**12,000**	NA	NA
B5	**4,200**	51	<0.02
B6	<50	NA	NA
B7	990	NA	NA
B8	<50	NA	NA
B9	1,200	11	<0.02
B10	<50	NA	NA
B11	110	NA	NA
B12	<50	NA	NA
B13	<50	NA	NA
B14	**2,700**	NA	NA
B15	<50	NA	NA
B16	<50	NA	NA
B17	**20,000**	NA	NA
B18	**3,800**	NA	NA
B19	<50	NA	NA
B20	<50	NA	NA
B21	<50	NA	NA
B22	**2,000**	NA	NA
B23	710	NA	NA
B24	<50	NA	NA
S1	110	<1	<0.02
S2	<50	<1	<0.02
S3	**15,000**	**830**	0.27
MTCA =	**2,000**	**100**	**0.03**

TPH-D = Total Petroleum Hydrocarbons as Diesel Fuel
TPH-G = Total Petroleum Hydrocarbons as Gasoline
MTCA = Model Toxics Control Act Method A Cleanup Level
Bold = Above MTCA Method A Cleanup Level

N
Not to Scale

Key:

B14 ● – Soil Boring (Above MTCA Method A for Soil)

B6 ● – Soil Boring (Below MTCA Method A for Soil)

S2 – Soil Sample Collected below UST

—— – Approximate Extent of Soil Contamination Above 2,000 mg/kg TPH as Diesel Fuel (MTCA Method A)

Estimated direction of groundwater flow

Figure 3

Diesel Fuel in Soil Concentration Map

Clayton GROUP SERVICES

Industrial Properties
2450 Sixth Avenue South
Seattle, Washington

Clayton Project No. 75-03092.00 | Industrial Properties

TABLES

Clayton GROUP SERVICES

TABLE 1. SOIL SAMPLING PHOTOIONIZATION DETECTOR RESULTS.
Industrial Properties, Inc. - 2450 Sixth Avenue South, Seattle, Washington

Depth (Ft. BGS)	B1 (ppm PID)	B2 (ppm PID)	B3 (ppm PID)	B4 (ppm PID)	B5 (ppm PID)	B6 (ppm PID)
0-3'	0.2	2.1	0.6	0.5	0.4	0.8
3-6'	0.4	2.4	0.4	0.9	0.5	2.0
6-9'	**131**	**157**	**41.2**	**101**	0.9	1.2
9-12'	7.4	-	-	-	**35.1**	**2.6**
12-15'	-	-	-	-	34.2	-

Depth (Ft. BGS)	B7 (ppm PID)	B8 (ppm PID)	B9 (ppm PID)	B10 (ppm PID)	B11 (ppm PID)	B12 (ppm PID)
0-3'	0.7	0.7	0.3	0.4	0.2	0.3
3-6'	1.2	NR	0.9	**4.1**	0.9	0.5
6-9'	1.3	NR	1.2	-	**1.6**	**0.8**
9-12'	**30.4**	**1.4**	**57.5**	-	0.7	0.8
12-15'	-	-	41.2	-	-	-

Depth (Ft. BGS)	B13 (ppm PID)	B14 (ppm PID)	B15 (ppm PID)	B16 (ppm PID)	B17 (ppm PID)	B18 (ppm PID)
0-3'	1.1	1.5	1.4	1.0	1.2	1.3
3-6'	1.1	1.3	1.4	1.5	1.4	1.5
6-9'	0.8	1.3	1.3	1.4	1.8	1.9
9-12'	**2.4**	**6.8**	**2.0**	**2.4**	**79.5**	**88.5**
12-15'	1.8	3.2	1.8	2.1	41.6	49.2

Depth (Ft. BGS)	B19 (ppm PID)	B20 (ppm PID)	B21 (ppm PID)	B22 (ppm PID)	B23 (ppm PID)	B24 (ppm PID)
0-3'	0.6	0.8	0.7	0.4	0.4	0.8
3-6'	0.6	0.7	0.6	0.5	2.8	0.8
6-9'	**0.7**	**0.8**	**0.8**	**40.7**	**46.2**	**1.0**
9-12'	0.5	0.8	0.8	21.2	-	1.0
12-15'	-	-	-	-	-	-

Ft. BGS = feet below ground surface
PID = photoionization detector
B1 = soil boring identification
NR = no recovery
Bold = sample submitted for laboratory analysis

Clayton GROUP SERVICES

TABLE 2. LABORATORY ANALYTICAL RESULTS SUMMARY (TPH and BTEX).
Industrial Properties, Inc. - 2450 Sixth Avenue South, Seattle, Washington

Soil Sampling Results

Boring Location	Sample ID	Sample Depth (feet bgs)	TPH as Diesel Fuel (mg/kg)	TPH as Gasoline (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)
UST-1								
B5	112602-S5	9-12'	**4,200**	51	<0.02	<0.02	0.04	<0.02
B6	112602-S6	9-12'	<50	NA	NA	NA	NA	NA
B7	112602-S7	9-12'	990	NA	NA	NA	NA	NA
B8	112602-S8	9-12'	<50	NA	NA	NA	NA	NA
B16	010603-S4	9-12'	<50	NA	NA	NA	NA	NA
B17	010603-S5	9-12'	**20,000**	NA	NA	NA	NA	NA
B18	010603-S6	9-12'	**3,800**	NA	NA	NA	NA	NA
B19	010703-S1	6-9'	<50	NA	NA	NA	NA	NA
B20	010703-S2	6-9'	<50	NA	NA	NA	NA	NA
S1	032803-S1	13-13.5'	110	<1	<0.02	<0.02	<0.02	0.03
UST-2								
B9	112602-S9	9-12'	1,200	11	<0.02	<0.02	<0.02	0.05
B10	112602-S10	3-6'	<50	NA	NA	NA	NA	NA
B11	112602-S11	6-9'	110	NA	NA	NA	NA	NA
B12	112602-S12	6-9'	<50	NA	NA	NA	NA	NA
B13	010603-S1	9-12'	<50	NA	NA	NA	NA	NA
B14	010603-S2	9-12'	**2,700**	NA	NA	NA	NA	NA
B15	010603-S3	9-12'	<50	NA	NA	NA	NA	NA
S2	032803-S2	5.5-6'	<50	<1	<0.02	<0.02	<0.02	<0.02
UST-3								
B1	112602-S1	6-9'	**21,000**	NA	NA	NA	NA	NA
B2	112602-S2	6-9'	**18,000**	**260**	**0.04**	0.03	0.93	0.94
B3	112602-S3	6-9'	1,600	NA	NA	NA	NA	NA
B4	112602-S4	6-9'	**12,000**	NA	NA	NA	NA	NA
B21	010703-S3	6-9'	<50	NA	NA	NA	NA	NA
B22	010703-S4	6-9'	**2,000**	NA	NA	NA	NA	NA
B23	010703-S5	6-9'	710	NA	NA	NA	NA	NA
B24	010703-S6	6-9'	<50	NA	NA	NA	NA	NA
S3	032803-S3	6.5-7'	**15,000**	**830**	**0.27**	<0.02	4.4	**24**
MTCA Method A Cleanup Level =			**2,000**	**100**	**0.03**	**7**	**6**	**9**

Clayton GROUP SERVICES

TABLE 2. Continued

Groundwater Sampling Results

Boring Location	Sample ID	Sample Depth (feet bgs)	TPH as Diesel Fuel (ug/l)	TPH as Gasoline (ug/l)	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylenes (ug/l)
UST-1								
B5	112602-GW2	12'	**Free Product**	NA	NA	NA	NA	NA
B16	010603-GW4	12'	**3,100**	NA	NA	NA	NA	NA
B17	010603-GW5	12'	**65,000**	NA	NA	NA	NA	NA
B18	010603-GW6	12'	**170,000**	NA	NA	NA	NA	NA
B19	010703-GW1	9'	<250	<50	<1	<1	<1	<1
B20	010703-GW2	8'	<250	NA	NA	NA	NA	NA
UST-2								
B9	112602-GW3	12'	**4,500**	NA	NA	NA	NA	NA
B13	010603-GW1	10'	**22,000**	NA	NA	NA	NA	NA
B14	010603-GW2	10'	**220,000**	**1,800**	**6**	<5	<5	8
B15	010603-GW3	11'	**2,500**	NA	NA	NA	NA	NA
UST-3								
B1	112602-GW1	8'	**490,000**	NA	NA	NA	NA	NA
B21	010703-GW3	7'	<250	NA	NA	NA	NA	NA
B22	010703-GW4	8'	**170,000**	750	<5	<5	11	11
B23	010703-GW5	7'	330	NA	NA	NA	NA	NA
B24	010703-GW6	7'	**1,800**	NA	NA	NA	NA	NA
MTCA Method A Cleanup Level =			**500**	**1,000**	**5**	**1,000**	**700**	**1,000**

bgs = below ground surface
TPH = total petroleum hydrocarbons
mg/kg = milligrams per kilogram (or parts per million (ppm))
ug/l = micrograms per liter (or parts per billion (ppb))
UST = underground storage tank
B1 = GeoProbe soil boring identification
S1 = soil sample collected below UST prior to decommissioning in-place
Bold = concentration above the above MTCA Mehtod A Cleanup Level
MTCA = State of Washington Department of Ecology Model Toxics Control Act
NA = not analyzed

Clayton GROUP SERVICES

TABLE 3. SOIL PAH LABORATORY RESULTS SUMMARY.
Industrial Properties, Inc. - 2450 Sixth Avenue South, Seattle, Washington

Soil Sampling Results

Boring Location	Sample ID	Sample Depth (feet bgs)	Naphthalene (mg/kg)	Acenaphthylene (mg/kg)	Acenaphthene (mg/kg)	Fluorene (mg/kg)	Phenanthrene (mg/kg)
UST-1							
B5	112602-S5	9-12'	0.12	<0.05	0.22	0.57	1.5
S1	032803-S1	13-13.5'	0.11	<0.005	0.038	0.085	0.12
UST-2							
B9	112602-S9	9-12'	<0.05	<0.05	0.14	0.31	0.75
S2	032803-S2	5.5-6'	<0.005	<0.005	<0.005	<0.005	<0.005
UST-3							
B2	112602-S2	6-9'	**12**	<0.5	1.5	3.5	7.3
S3	032803-S3	6.5-7'	**19**	<0.5	2.1	5.1	11
MTCA Method A Cleanup Level =			**5**	-	-	-	-
CLARC Method B Cleanup Level =			**1,600**	-	**4,800**	**3,200**	-
CLARC Method C Cleanup Level =			**70,000**	-	**210,000**	**140,000**	-

Boring Location	Sample ID	Sample Depth (feet bgs)	Anthracene (mg/kg)	Fluoranthene (mg/kg)	Pyrene (mg/kg)	Chrysene (carcinogenic) (mg/kg)	Other Carcinogenic PAHs (mg/kg)
UST-1							
B5	112602-S5	9-12'	<0.05	0.051	0.21	<0.05	<0.05
S1	032803-S1	13-13.5'	<0.005	0.006	0.011	<0.005	<0.005
UST-2							
B9	112602-S9	9-12'	<0.05	<0.05	<0.05	<0.05	<0.05
S2	032803-S2	5.5-6'	<0.005	<0.005	<0.005	<0.005	<0.005
UST-3							
B1	112602-S2	6-9'	<0.5	<0.5	0.54	<0.5	<0.5
S3	032803-S3	6.5-7'	<0.5	0.19	1.1	<0.5	<0.5
MTCA Method A Cleanup Level =			-	-	-	**0.1**	**0.1**
CLARC Method B Cleanup Level =			**24,000**	**3,200**	**2,400**	**0.137**	**0.137**
CLARC Method C Cleanup Level =			**1,050,000**	**140,000**	**105,000**	**18**	**18**

bgs = below ground surface
PAH = poly-nuclear aromatic hydrocarbons
mg/kg = milligrams per kilogram
UST = underground storage tank
B1 = GeoProble soil boring identification (11.26.02)
S1 = soil sample collected from below UST prior to decommissioning in-place
Bold = concentration above established Cleanup Level
MTCA = State of Washington Department of Ecology Model Toxics Control Act
CLARC = Cleanup Levels and Risk Calculations (Publication No. 94-145, November 2001)
Method B = direct contact (ingestion only) - unrestricted land use
Method C = direct contact (ingestion only) - industrial land use

Clayton GROUP SERVICES

TABLE 4. GROUNDWATER PAH LABORATORY RESULTS SUMMARY.
Industrial Properties, Inc. - 2450 Sixth Avenue South, Seattle, Washington

Groundwater Sampling Results

Boring Location	Sample ID	Sample Depth (feet bgs)	Naphthalene (ug/l)	Acenaphthylene (ug/l)	Acenaphthene (ug/l)	Fluorene (ug/l)	Phenanthrene (ug/l)
UST-1							
B19	010703-GW1	9'	<0.1	<0.1	<0.1	<0.1	0.3
UST-2							
B14	010603-GW2	10'	21	<1	46	140	220
UST-3							
B22	010703-GW4	8'	23	<1	32	88	120
MTCA Method A Cleanup Level =			**160**	-	-	-	-
CLARC Method B Cleanup Level =			**160**	-	**960**	**640**	-
CLARC Method C Cleanup Level =			**350**	-	**2,100**	**1,400**	-

Boring Location	Sample ID	Sample Depth (feet bgs)	Fluoranthene (ug/l)	Pyrene (ug/l)	Benz(a) anthracene (ug/l)	Chrysene (carcinogenic) (ug/l)	Other Carcinogenic PAHs (ug/l)
UST-1							
B19	010703-GW1	9'	<0.1	<0.1	<0.1	<0.1	<0.1
UST-2							
B14	010603-GW2	10'	5	23	**3**	**5**	<1
UST-3							
B22	010703-GW4	8'	8	11	**1**	**2**	<1
MTCA Method A Cleanup Level =			-	-	**0.1**	**0.1**	**0.1**
CLARC Method B Cleanup Level =			**640**	**480**	**0.012**	**0.012**	**0.012**
CLARC Method C Cleanup Level =			**1,400**	**1,050**	**0.12**	**0.12**	**0.12**

bgs = below ground surface
PAH = poly-nuclear aromatic hydrocarbons
ug/l = micrograms per liter
UST = underground storage tank
B19 = GeoProble soil boring identification (01.07.02)
Bold = concentration above established Cleanup Level
MTCA = State of Washington Department of Ecology Model Toxics Control Act
CLARC = Cleanup Levels and Risk Calculations (Publication No. 94-145, November 2001)
Method B = potable groundwater (Publication No. 94-145, November 2001)
Method C = potable groundwater (Publication No. 94-145, November 2001)

APPENDIX A

CORRESPONDENCE, DECOMMISSIONING PERMIT & CLEANING CERTIFICATE

4636 E. Marginal Way S.
Suite 215
Seattle, WA 98134
206.763.7364
Fax 206.763.4189

Clayton
GROUP SERVICES

MEMORANDUM

To: File (75-03092.00)

From: Greg Ferris GF

Subject: INDUSTRIAL PROPERTIES – ECOLOGY 24 HOUR REPORT

Date: November 27, 2002

On November 27, 2002, I spoke with Ms. Nida Rodriguez at Ecology regarding the preliminary findings of the November 26 underground storage tank (UST) subsurface investigation activities at Industrial Properties, Inc., 2450 Sixth Avenue South, Seattle, Washington.

Ms. Rodriguez was informed that on November 26, 2002, petroleum releases to soil and groundwater were detected in the vicinity of three USTs at the site (UST-1, UST-2 and UST-3) during the drilling of borings to collect soil and groundwater samples, and that free product was detected in the boring drilled just north of UST-1.

Ms. Rodriguez was also informed that the owner was planning to remove the remaining fuel in the three USTs to mitigate any future potential releases from occurring at the site.

Ms. Rodriguez assigned an Ecology Emergency Response Tracking System # (ERTS# 530490) to the site.

This report of the preliminary findings of the subsurface investigation activities at the subject property given to Ms. Rodriguez serves as the Ecology 24 Hour Report as required in WAC 173-340-300(2)(a).

4636 E. Marginal Way S.
Suite 215
Seattle, WA 98134
206.763.7364
Fax 206.763.4189

Clayton
GROUP SERVICES

MEMORANDUM

To: File (75-03092.00)

From: Greg Ferris GF

Subject: INDUSTRIAL PROPERTIES – ECOLOGY 20 DAY REPORT

Date: December 17, 2002

On December 17, 2002, I spoke with Mr. John Bails at Ecology regarding the actions being taken at the subject property (2450 Sixth Avenue South, Seattle, Washington) to mitigate the petroleum releases detected at the site during the November 26, 2002 subsurface investigation around three heating fuel underground storage tanks (USTs).

Mr. Bails was informed that the fuel remaining in the USTs had been removed and that the owner was currently planning to perform a more in depth release investigation during January 2003 to delineate soil and groundwater impacts from the UST releases.

This report given to Mr. Bails of the status of activities at the subject property serves as the Ecology 20 Day Report as required in WAC 173-340-450.

4636 E. Marginal Way S.
Suite 215
Seattle, WA 98134
206.763.7364
Fax 206.763.4189

Clayton
GROUP SERVICES

FAX COVER

To:	John Houlihan	**From:**	Greg Ferris GF
Company:	Short Cressman & Burgess	**Date:**	December 16, 2002
Fax No.:	206.340.8856	**Project No.:**	Industrial Properties

No. of Pages (including cover): 1

Please confirm receipt: YES X NO

Subject: Industrial Properties – 2450 6th Avenue South, Seattle, WA

Between December 4 – 7, 2002, Clayton supervised the removal of approximately 1,200 gallons of fuel from the three heating fuel underground storage tanks (USTs) at the Industrial Properties Transfer Warehouse located 2450 Sixth Avenue South, Seattle, Washington.

Specifically, the total volume of fuel removed from each UST was:

UST-1 ~750 gallons removed Dec. 6 & 7 (former Far West Taxi office)

UST-2 ~200 gallons removed Dec. 5 (hallway east of former Far West office)

UST-3 ~250 gallons removed Dec. 4 (R.H. Smith Garage at NW corner of property)

Greg Ferris

PICKERING BROTHERS COMPANY

Invoice # 1202-02

Friday, December 13, 2002

Greg Ferris
Clayton Group Services
4636 E MARGINAL WAY SOUTH
SUITE B-215
Seattle, WA 98134

Dear Greg:

Please find an invoice for services provided at 6th and Lander. 75-03092.00

Tank pumping.

Fuel Removal and disposal or recycling. $750.00

Total for this invoice. $750.00 4

Thank you for your business.

Sincerely,

Darren Pickering

DARREN PICKERING

P.O. Box 784 • Fall City, WA 98024 • Office/Fax: 425-222-9398 • Cell: 206-715-4245
email: pick76@earthlink.net

MAY 14 '02 08:28AM

3-28
10:00am
Fri.

3/26/03 WED 1:00 P.1/1

Your
Seattle
Fire Department

RECEIVED
MAR 24 2003
PERMIT SECTION

APPLICATION FOR TEMPORARY PERMIT

Permit Code No.: 7908 Title: COMMERCIAL FLAMMABLE/COMBUSTIBLE LIQUID, TANK DECOMMISSIONING
#114.00
Fee: $98.00 Code Reference: SFC 7901.3

3-24-03, 3-28-03, 3-28-03/170
Date Received Date Issued Expiration Date/Time

Firm Name: Environmental Tank Service, Inc. Phone: (253) 833-4375
Firm Address: 3260 "B" Street NW City: Auburn State: WA Zip: 98001
Job Site: 2450 Sixth Ave. South, Seattle, WA
Person In Charge: Lynn Hood Phone: 206-478-4070
Number of Tank(s): 2-500 1-10,000 Tank Size(s):
Product(s) Previously Contained: Diesel
☐ Removal ☒ Abandonment-in-Place Hot Work: ☐Yes ☒No

Remittance for permit fee as shown above must be returned with this application to:

Seattle Fire Department
Permits Section
220 Third Avenue South
Seattle, WA 98104-2608

Make Checks Payable To: City of Seattle

Procedures: Call 386-1450, at least 24 hours prior to needed inspection time to arrange for an appointment. Appointments must be confirmed by an inspector.

TANKS MAY BE DECOMMISSIONED ONLY AFTER FIRE DEPARTMENT INSPECTION

Permit Conditions:

1. Excavation of any tank prior to inspection by the Fire Marshal's Office is prohibited.
   EXCEPTION: Removal of asphalt or concrete over the tank is permitted.
2. Two (2) portable fire extinguishers with a minimum rating of 40 BC shall be on site within 50 feet of the operation. Fire extinguishers shall be inspected, approved and certified annually.
3. Rope or ribbon barricades shall be provided circling 10 feet from the operation or be enclosed in a fenced yard.
4. "No Smoking" signs shall be posted in readily visible locations.
5. No hot work is allowed on a tank unless the tank is certified "safe for hot work" by a marine chemist.
6. A separate Fire Department permit (Code 4913) or a validation number is required for cutting and welding operations.

Special Permit Conditions:

FMO USE
Receipt No.: 5-57277
Check No.: 9131
Application ID#: 46353

APPROVED BY
Inspector: Joe H. Miller
Date: 3-28-03

7908 (5/01)

Auburn, WA 98001
ENVIR-TS094PU

Seattle: 1-253-622-6010
Tacoma: 1-253-474-6242
So. King: 1-253-833-4375
FAX: 1-253-939-2898

Statement of U. S. T. Decommissioning

(Underground Storage Tank)
Contr # ENVIR-TS094PU

This is a statement (certificate) of UST (Underground Storage Tank) Decommissioning. Environmental Tank Service, Inc. is a corporation licensed and insured in the State of Washington. Its primary service is tank decommissioning. Environmental Tank Service, Inc. issues this certificate for the work identified and preformed at the below address. Environmental Tank Service, Inc. states this decommissioning has occurred following local rules and regulations and as defined in the Uniform Fire Code and Washington Administrative Code.

Name	**Industrial Properties**
Address	**2450 6th Ave S**
City/State/Zip	**Seattle, Washington**
Decommission Date	**March 28, 2003**
UST Issue Date	**March 31, 2003**
Permit	**City of Seattle # 46353**
Tank Sizes	**2 - 500 gallons Diesel**
	1 – 12,000 gallons Diesel
Decommissioning	**Slurry**

*Type of Decommissioning

Removal means the tank was excavated and removed from the property
Foam means the tank was decommissioned inplace and filled with a 2lb density polyurethane foam.
Slurry means the tank was decommissioned inplace and filled with a cement/slurry mixture.
Tank Pickup means a tank was removed from the property.
Pump/Triple Rinse/Cap means the tank was pumped of contents, triple rinsed and capped empty.

IFCI Tank Decommissioning

PROTECTIVE ENVIRONMENTAL SERVICES, INC.

EPA ID#: WAD 0065 13052

TO: Enviromental Tank Services

THIS LETTER IS TO CERTIFY THAT PROTECTIVE ENVIRONMENTAL SERVICES, INC. HAS CLEANED FUEL OIL STORAGE TANKS LISTED BELOW AND THAT THEY ARE ACCEPTABLE FOR DESTRUCTION.

TANK SIZES APPROXIMATELY 1-350 gal Ex-diesel
1-500 gal. Ex-diesel
1-15,000 gal " "

JOB SITE 6th & Lander
Seattle WA.

DATE March 27 2003

AUTHORIZED Jon P. Smith

3003 Taylor Way • Tacoma, WA 98421
(253) 383-4175 • (253) 383-4531
Petroleum Reclaiming Service, Inc.

ENTRY LOG FOR NON-HAZARDOUS ITEMS RECEIVED BY PRS PLANT, TACOMA, WASHINGTON

№ 04339

Date: March 28, 2003 Carrier: Protective Enviro Veh. No. #110

Driver Signature: [signature] Plant Employee Signature: Time:

Drivers Name (Please Print Legibly)

% Water Flash: Chlor:

WASTE MATERIAL

Generator Name	Profile Number	Work Order, Bill of Lading, or Manifest #	Used Oil (WET or DRY)	Spent Anti-freeze	Used Oil Filters	Gasoline or Fuel Mixture	PROFILE REQUIRED: Waste Water	Spill Debris	Grease	Sludge or Other Solid Waste	Water Soluble	Bulk or Drum Type & Size (closed/open)
Enviro Tank	On File	#5090	600 gal							300 gal		Bulk.

Please specify the following: 1) *Drums or Gallons* 2) *Closed* or *Open Top* Drums 3) If mixture of material in one drum - note % or *gallons* of each 4) Oil-Wet or *Dry* 5) Specify type of *solid* waste

white copy - *Plant File* yellow copy - *Main Office* pink copy - *Customer*

Page 1 of 1

STRAIGHT BILL OF LADING

ORIGINAL – NOT NEGOTIABLE

Protective Environmental Services, Inc.
4742-42nd SW # 190
Seattle, WA 98116-4553

Shipper No.

Invoice № 5090

Date 3/22/03

TO:		FROM:	
Consignee	PRS	Shipper	Enviro Tank
Street	3003 Taylor Way	Street	6 E Landes
City Tacoma State WA Zip Code		City Seattle State WA Zip Code	

24 HOUR EMERGENCY CONTACT TELEPHONE NUMBER: 206-624-5503

Route

Vehicle Number

No. of Units & Container Type	HM	BASIC DESCRIPTION Proper Shipping Name, Hazard Class Identification Number (UN or NA) per 172.101, 172.202, 172.203	TOTAL QUANTITY (Weight, Volume, Gallons, etc.)
1 TT		Combustible liquid n.o.s. NA 1993	600 gal
		Solid.	200 gal
		EMERGENCY RESPONSE GUIDE ON BOARD TRUCK	

PLACARDS TENDERED: YES ☐ NO ☐ IN CASE OF EMERGENCY, SPILL OR LEAK USE EMERGENCY RESPONSE GUIDE #:

I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packaged, marked and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Signature

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of, said property over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the bill of lading terms and conditions in the governing classification of the date of shipment.

Shipper hereby certifies that he is familiar with all the bill of lading terms and conditions in the governing classification and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

SHIPPER

PER

RECEIVED BY

CARRIER *Protective Environmental Services, Inc.*

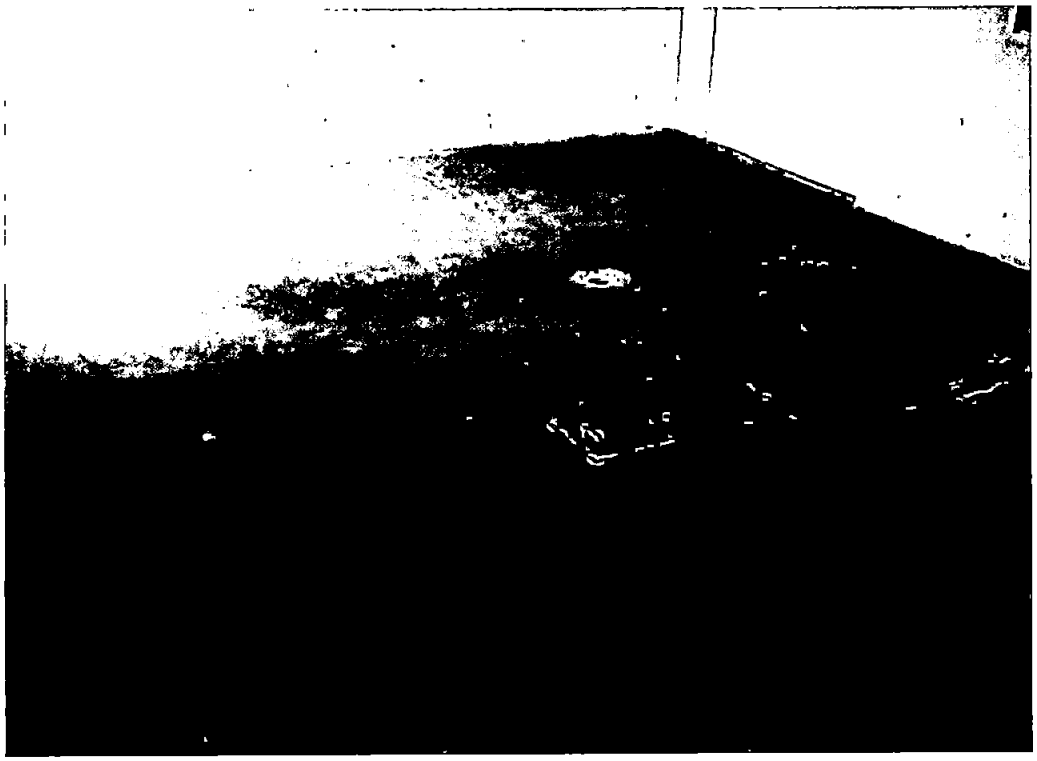
PER **DATE**

DATE

white - OFFICE *yellow - CUSTOMER* *pink - OFFICE* *gold - BOOK*

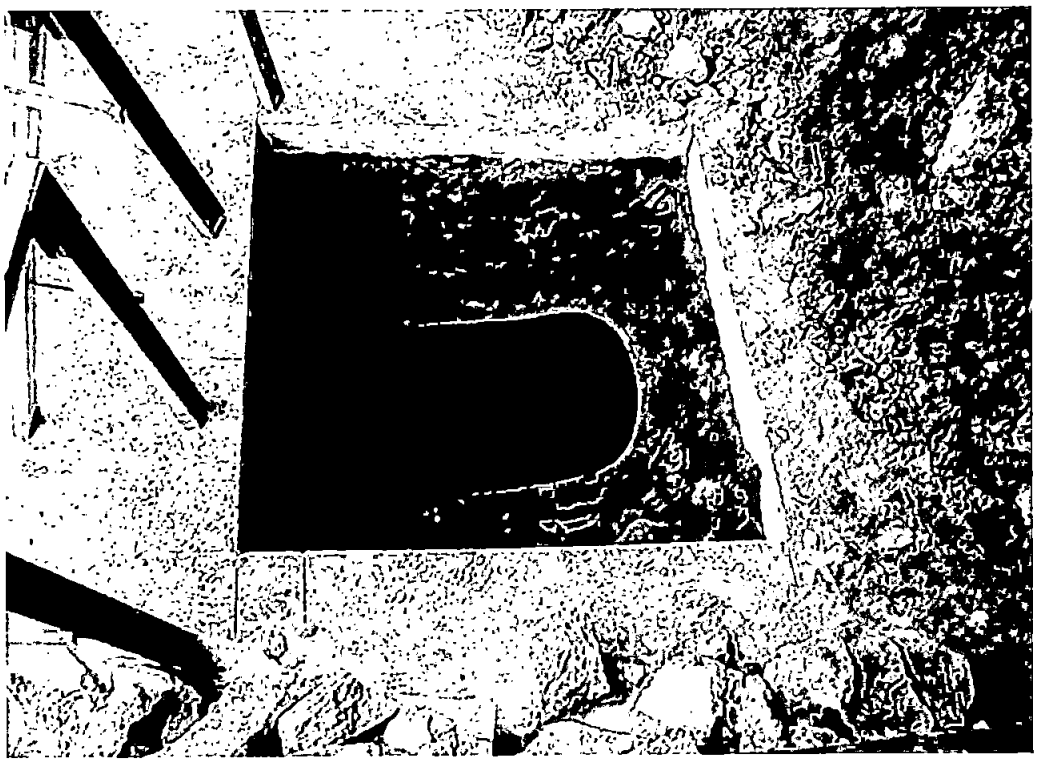
APPENDIX B

PHOTOGRAPHS DOCUMENTING CLOSURE OF THE USTs

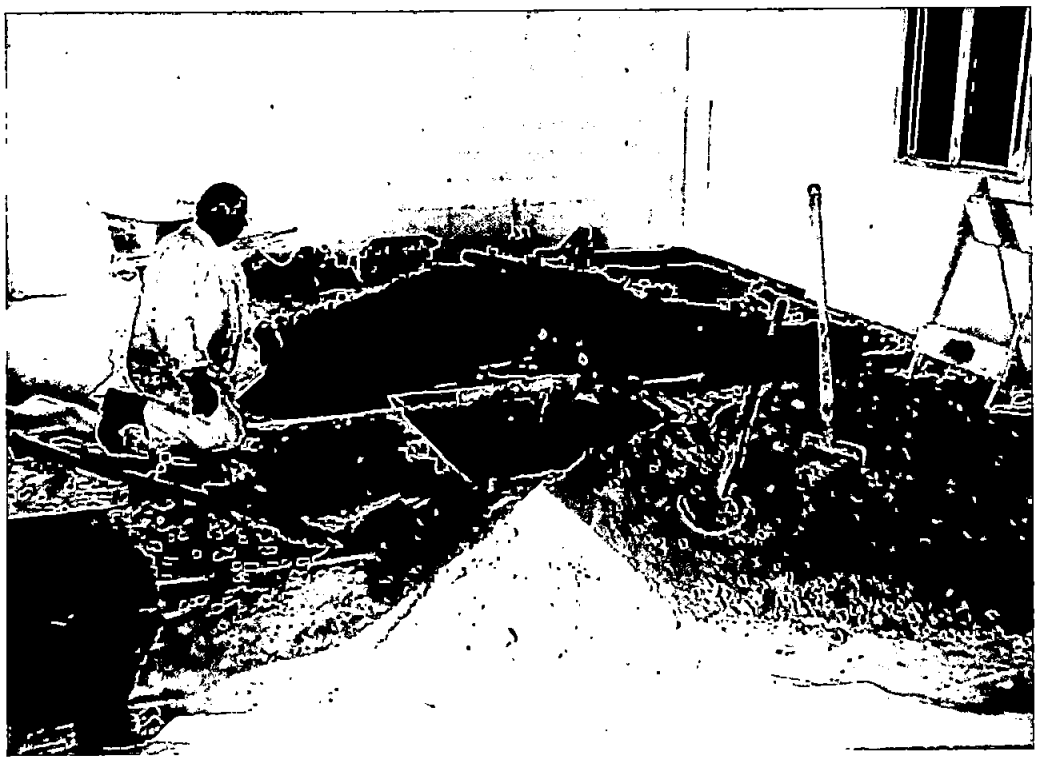


Subject	UST-1 Manhole with Recovery Well and Boring B5 located just north of the tank.	**Clayton**	**1**
Site	2450 Sixth Avenue South, Seattle, Washington	**Project No.**	**Date**
Client	Industrial Properties, Inc.	75-03092.00	26 Mar 2003

Subject	Hole cut in UST-2 for cleaning and sampling purposes (with vapor control).	**Clayton**	**2**
Site	2450 Sixth Avenue South, Seattle, Washington	**Project No.**	**Date**
Client	Industrial Properties, Inc.	75-03092.00	26 Mar 2003

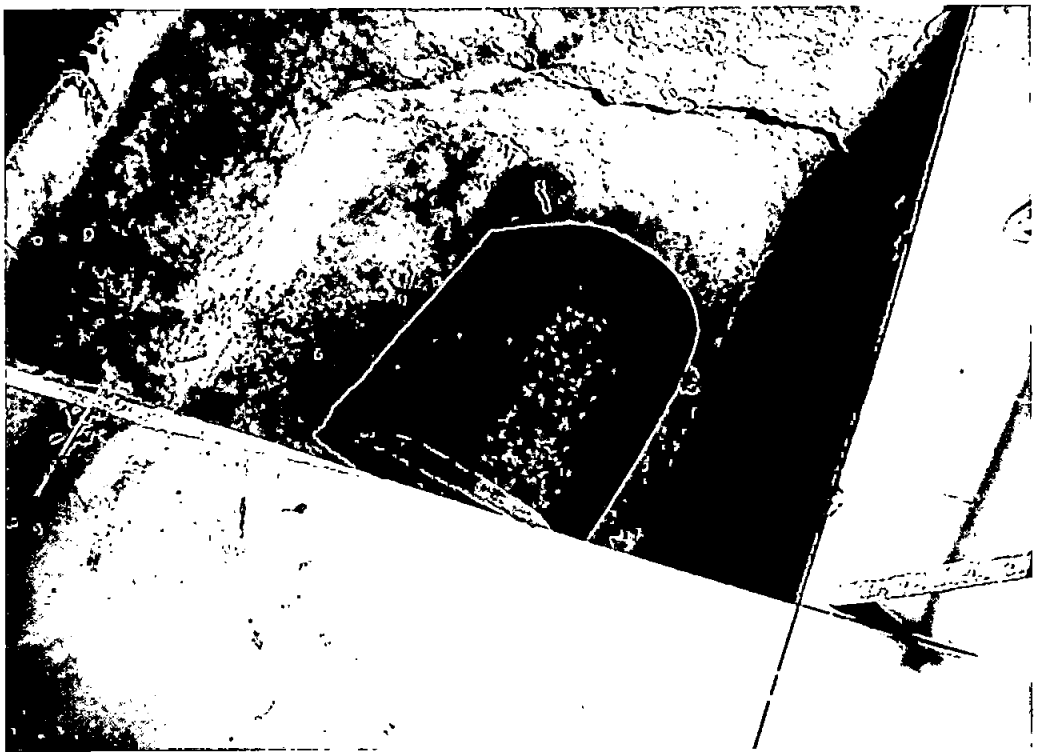


Subject	Hole cut in UST-3 for cleaning and sampling purposes.	**Clayton**	**3**
Site	2450 Sixth Avenue South, Seattle, Washington	**Project No.**	**Date**
Client	Industrial Properties, Inc.	75-03092.00	26 Mar 2003

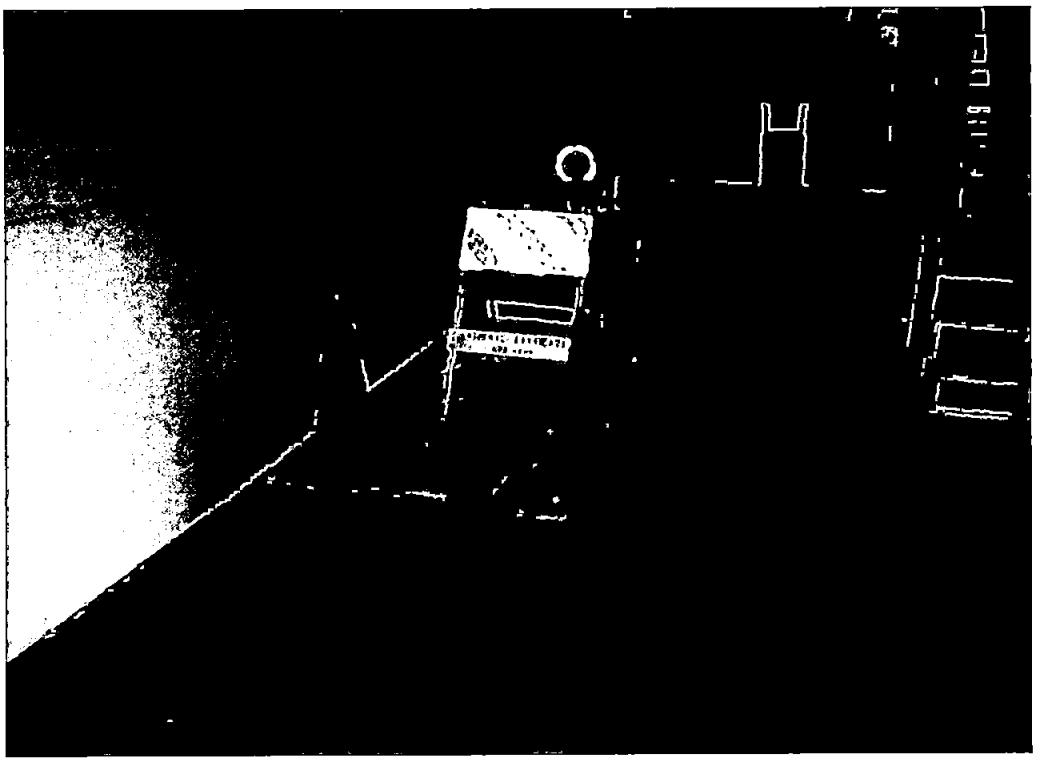


Subject	Digging down to UST-1.	**Clayton**	**4**
Site	2450 Sixth Avenue South, Seattle, Washington	**Project No.**	**Date**
Client	Industrial Properties, Inc.	75-03092.00	27 Mar 2003

Subject	Preparing to clean UST-1.	**Clayton**	**5**
Site	2450 Sixth Avenue South, Seattle, Washington	**Project No.**	**Date**
Client	Industrial Properties, Inc.	75-03092.00	27 Mar 2003



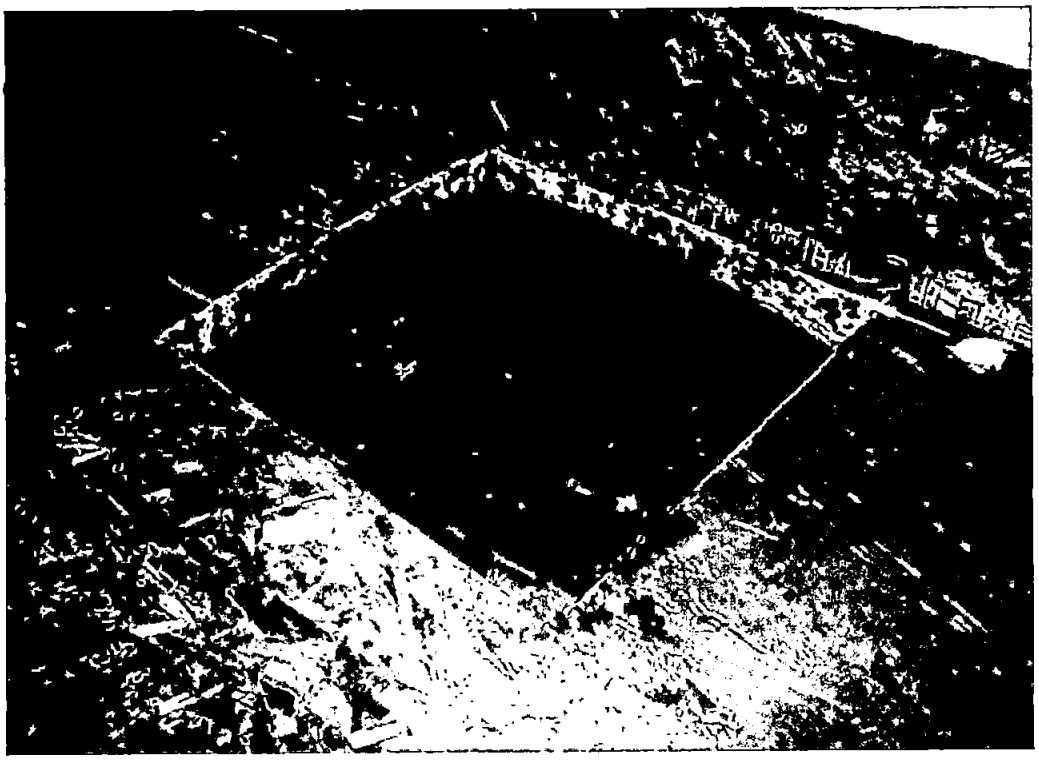
Subject	UST-2 cleaned and rinsed.	**Clayton**	**6**
Site	2450 Sixth Avenue South, Seattle, Washington	**Project No.**	**Date**
Client	Industrial Properties, Inc.	75-03092.00	27 Mar 2003



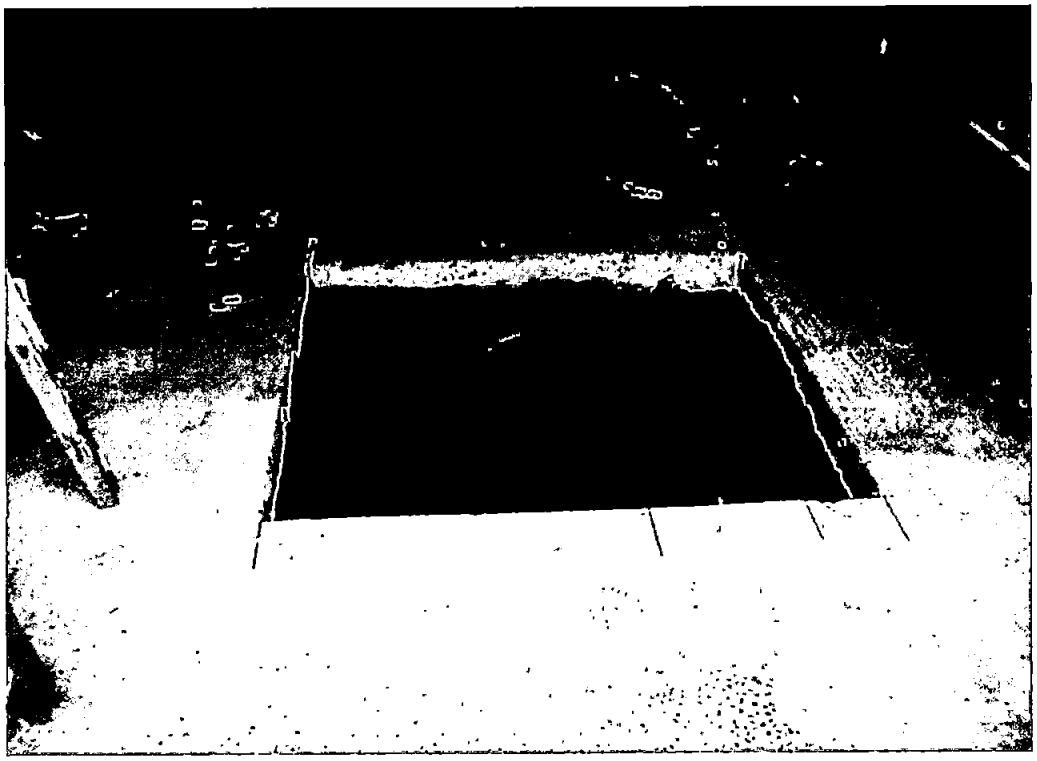
Subject	UST-2 area covered over with plywood, cones and barricades for safety purposes.	**Clayton**	**7**
Site	2450 Sixth Avenue South, Seattle, Washington	**Project No.**	**Date**
Client	Industrial Properties, Inc.	75-03092.00	27 Mar 2003

Subject	Filling UST-1 in-place with CDF.	**Clayton**	**8**
Site	2450 Sixth Avenue South, Seattle, Washington	**Project No.**	**Date**
Client	Industrial Properties, Inc.	75-03092.00	28 Mar 2003

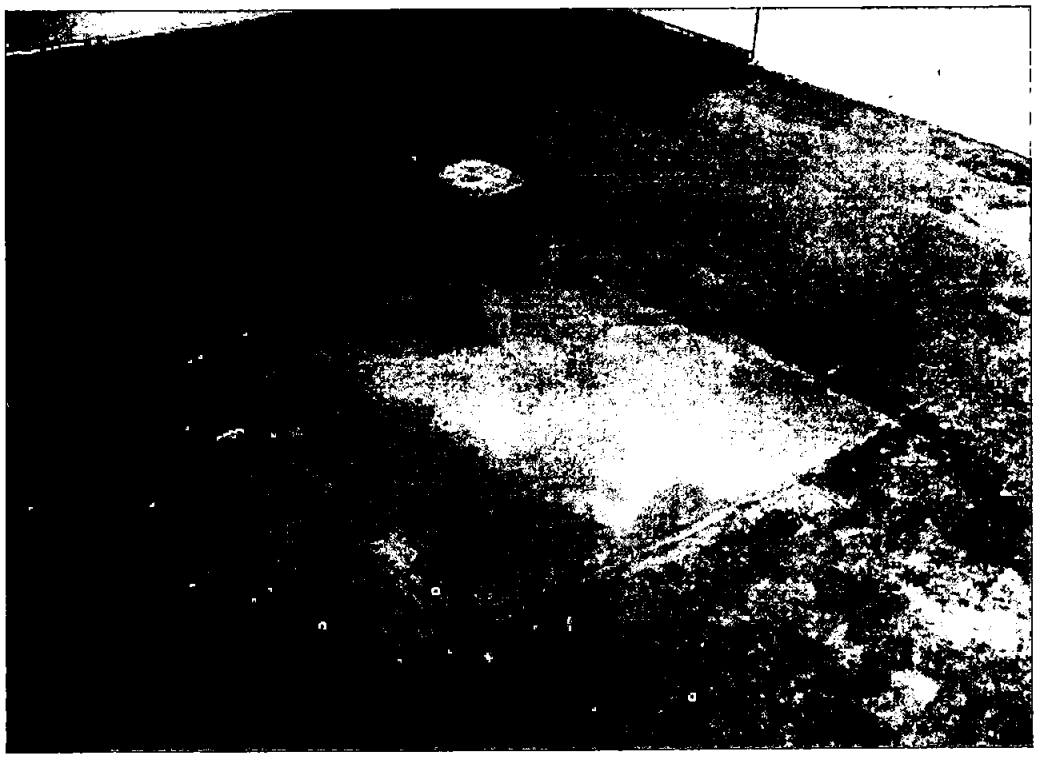
Subject	UST-1 filled in-place with CDF.	**Clayton**	**9**
Site	2450 Sixth Avenue South, Seattle, Washington	**Project No.**	**Date**
Client	Industrial Properties, Inc.	75-03092.00	28 Mar 2003



Subject	UST-2 filled in-place with CDF.	**Clayton**	**10**
Site	2450 Sixth Avenue South, Seattle, Washington	**Project No.**	**Date**
Client	Industrial Properties, Inc.	75-03092.00	28 Mar 2003

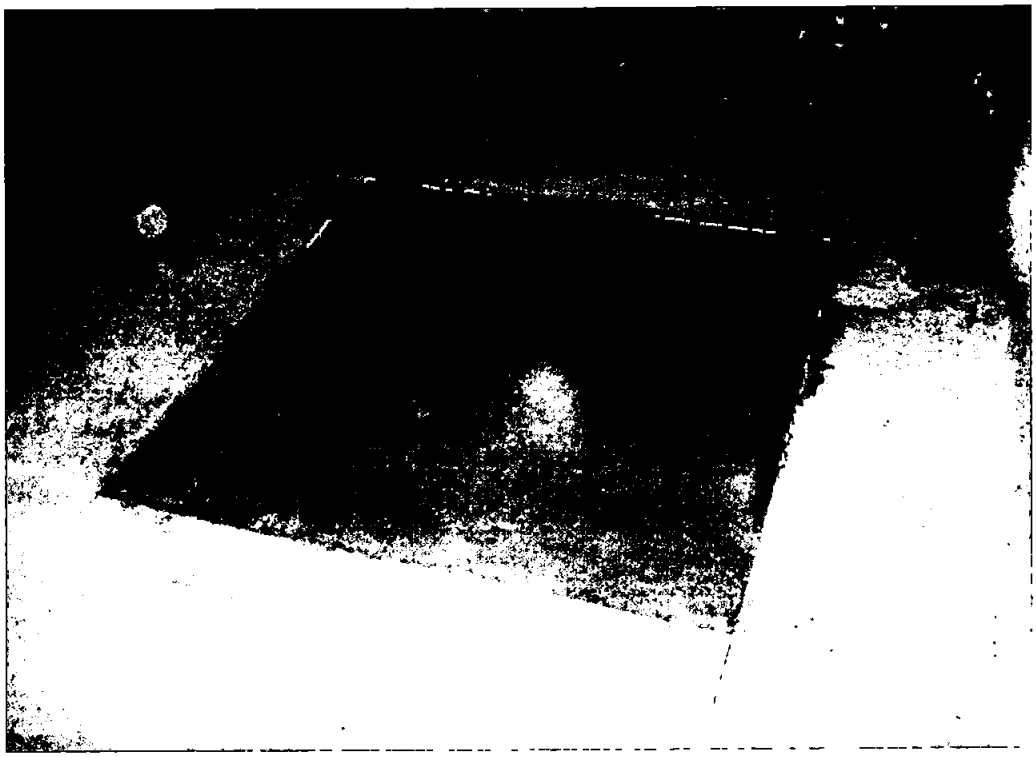


Subject	UST-3 filled in-place with CDF.	**Clayton**	**11**
Site	2450 Sixth Avenue South, Seattle, Washington	**Project No.**	**Date**
Client	Industrial Properties, Inc.	75-03092.00	28 Mar 2003



Subject	UST-1 access area finished with concrete to grade.	**Clayton**	**12**
Site	2450 Sixth Avenue South, Seattle, Washington	**Project No.**	**Date**
Client	Industrial Properties, Inc.	75-03092.00	31 Mar 2003

Subject	UST-2 access area finished with concrete to grade.	**Clayton**	**13**
Site	2450 Sixth Avenue South, Seattle, Washington	**Project No.**	**Date**
Client	Industrial Properties, Inc.	75-03092.00	31 Mar 2003



Subject	UST-3 access area finished with concrete to grade.	**Clayton**	**14**
Site	2450 Sixth Avenue South, Seattle, Washington	**Project No.**	**Date**
Client	Industrial Properties, Inc.	75-03092.00	31 Mar 2003

Clayton GROUP SERVICES

APPENDIX C

CLOSURE AND SITE ASSESSMENT NOTICE & CHECKLIST

WASHINGTON STATE DEPARTMENT OF ECOLOGY

UNDERGROUND STORAGE TANK
Closure and Site Assessment Notice

See back of form for instructions

Please ✓ the appropriate box(es)
☐ Temporary Tank Closure ☐ Change-In-Service ☒ Permanent Tank Closure ☒ Site Check/Site Assessment

Site Information

Site ID Number _____
(Available from Ecology if the tanks are registered)

Site/Business Name INDUSTRIAL PROPERTIES Inc.

Site Address (Street) 2450 SIXTH AVENUE SOUTH

City/State SEATTLE, WASHINGTON

Zip Code 98134 Telephone (800) 451-4931

Owner Information
(This form will be returned to this address)

UST Owner/Operator INDUSTRIAL PROPERTIES

Mailing Address (Street) P.O. BOX 1716 (P.O. Box)

City/State AUBURN, WASHINGTON

Zip Code 98071-1716 Telephone (800) 451-4931

* Owners Signature Ben E. Gold - President

Tank Closure/Change-In-Service Company

Service Company ENVIRONMENTAL TANK SERVICE

Certified Supervisor Lynn A. Hood Decommissioning Certification No. 106 1753-26

Supervisor's Signature _____ Date 4-10-03

Address 3260 'B' STREET NW (Street) (P.O. Box)

AUBURN (City) WASHINGTON (State) 98001 (Zip Code) Telephone (253) 833-4375

Site Check/Site Assessor

Certified Site Assessor GREG FERRIS - CLAYTON GROUP SERVICES

Address 4636 E. MARGINAL WAY SOUTH #215 (Street) (P.O. Box)

SEATTLE (City) WA (State) 98134 (Zip Code) Telephone (206) 763-7364

Tank Information

Tank ID	Closure Date	Closure Method	Tank Capacity	Substance Stored
UST-1	03-28-03	FILLED IN PLACE	10,000-GAL.	HEATING FUEL
UST-2	03-28-03	FILLED IN PLACE	300-GAL.	HEATING FUEL
UST-3	03-28-03	FILLED IN PLACE	550-GAL.	HEATING FUEL

Contamination Present at the Time of Closure

☒ Yes ☐ No ☐ Unknown

Check unknown if no obvious contamination was observed and sample results have not yet been received from analytical lab.

☒ Yes ☐ No

If contamination is present, has the release been reported to the appropriate regional office?

To receive this document in an alternative format, contact the TOXICS CLEANUP PROGRAM at 1-800-826-7716 (VOICE) OR (360) 407-6006 (TDD).

ECY 020-94 (Rev. 5-99)

WASHINGTON STATE DEPARTMENT OF ECOLOGY

UNDERGROUND STORAGE TANK
Site Check/Site Assessment Checklist

FOR OFFICE USE ONLY
Site #: _____
Owner #: _____

INSTRUCTIONS

When a release has not been confirmed and reported, this Site Check/Site Assessment Checklist must be completed and signed by a person certified by IFCI or a Washington registered professional engineer who is competent, by means of examination, experience, or education, to perform site assessments. **The results of the site check or site assessment must be included with this checklist.** This form must be submitted to Ecology at the address shown below within 30 days after completion of the site check/site assessment.

SITE INFORMATION: Include the Ecology site ID number if the tanks are registered with Ecology. This number may be found on the tank owner's invoice or tank permit.

TANK INFORMATION: Please list all tanks for which the site check or site assessment is being conducted. Use the owner's tank ID numbers if available, and indicate tank capacity and substance stored.

REASON FOR CONDUCTING SITE CHECK/SITE ASSESSMENT: Please check the appropriate item.

CHECKLIST: Please initial each item in the appropriate box.

SITE ASSESSOR INFORMATION: This information must be signed by the registered site assessor who is responsible for conducting the site check/site assessment.

Underground Storage Tank Section
Department of Ecology
PO Box 47655
Olympia WA 98504-7655

SITE INFORMATION

Site ID Number (Available from Ecology if the tanks are registered): _____
Site/Business Name: INDUSTRIAL PROPERTIES
Site Address: 2450 SIXTH AVENUE SOUTH (Street) Telephone: (800) 451-4931
SEATTLE (City) WASHINGTON (State) 98134 (Zip Code)

TANK INFORMATION

Tank ID No.	Tank Capacity	Substance Stored
UST-1	10,000 - GAL.	HEATING FUEL
UST-2	300 - GAL.	HEATING FUEL
UST-3	550 - GAL.	HEATING FUEL

REASON FOR CONDUCTING SITE CHECK/SITE ASSESSMENT

Check one:

_____ Investigate suspected release due to on-site environmental contamination.
_____ Investigate suspected release due to off-site environmental contamination.
_____ Extend temporary closure of UST system for more than 12 months.
_____ UST system undergoing change-in-service.
_____ UST system permanently closed with tank removed.
_____ Abandoned tank containing product.
_____ Required by Ecology or delegated agency for UST system closed before 12/22/88.
_X_ Other (describe): UST SYSTEM CLOSED W/ TANKS FILLED IN PLACE W/ CDF

CHECKLIST

Each item of the following checklist shall be initialed by the person registered with the Department of Ecology whose signature appears below.	YES	NO
1. The location of the UST site is shown on a vicinity map.	X	
2. A brief summary of information obtained during the site inspection is provided. (see Section 3.2 in site assessment guidance)	X	
3. A summary of UST system data is provided. (see Section 3.1.)	X	
4. The soils characteristics at the UST site are described. (see Section 5.2)	X	
5. Is there any apparent groundwater in the tank excavation?		X
6. A brief description of the surrounding land use is provided. (see Section 3.1)	X	
7. Information has been provided indicating the number and types of samples collected, methods used to collect and analyze the samples, and the name and address of the laboratory used to perform the analyses.	X	
8. A sketch or sketches showing the following items is provided:		
- location and ID number for all field samples collected	X	
- groundwater samples distinguished from soil samples (if applicable)	X	
- samples collected from stockpiled excavated soil		X
- tank and piping locations and limits of excavation pit	X	
- adjacent structures and streets	X	
- approximate locations of any on-site and nearby utilities	X	
9. If sampling procedures different from those specified in the guidance were used, has justification for using these alternative sampling procedures been provided? (see Section 3.4)		X
10. A table is provided showing laboratory results for each sample collected including; sample ID number, constituents analyzed for and corresponding concentration, analytical method and detection limit for that method.	X	
11. Any factors that may have compromised the quality of the data or validity of the results are described.		X
12. The results of this site check/site assessment indicate that a confirmed release of a regulated substance has occurred.	X	

SITE ASSESSOR INFORMATION

GREG FERRIS
Person registered with Ecology

CLAYTON GROUP SERVICES
Firm Affiliated with

Business Address: 4636 E. MARGINAL WAY SOUTH
Street

Telephone: (206) 763-7364

SEATTLE
City

WASHINGTON
State

98134
Zip Code

I hereby certify that I have been in responsible charge of performing the site check/site assessment described above. Persons submitting false information are subject to penalties under Chapter 173.360 WAC.

03-28-03
Date

Signature of Person Registered with Ecology

Clayton
GROUP SERVICES

APPENDIX D

LABORATORY ANALYTICAL REPORT

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/18/03
Date Received: 03/28/03
Project: 75-03092.00, F&BI 303269
Date Extracted: 03/31/03
Date Analyzed: 03/31/03

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL USING METHOD NWTPH-Dx
Extended to Include Motor Oil Range Compounds
Results Reported on a Dry Weight Basis
Results Reported as µg/g (ppm)

Sample ID Laboratory ID	Diesel Extended (C_{10}-C_{36})	Surrogate (% Recovery) (Limit 45-153)
032803-S1 303269-01	110	95
032803-S2 303269-02	<50	99
032803-S3 d 303269-03	15,000	150
Method Blank	<50	94

d - The sample was diluted.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/18/03
Date Received: 03/28/03
Project: 75-03092.00, F&BI 303269
Date Extracted: 04/01/03
Date Analyzed: 04/01/03

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as µg/g (ppm)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 76-129)
032803-S1 303269-01	<0.02	<0.02	<0.02	0.03	<1	79
032803-S2 303269-02	<0.02	<0.02	<0.02	<0.02	<1	79
032803-S3 d 303269-03	0.27	<0.2	4.4	24	830	98
Method Blank	<0.02	<0.02	<0.02	<0.02	<1	81

d - The sample was diluted. Detection limits are raised due to dilution.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PNA Compounds By EPA Method 8270C SIM

Client Sample ID:	032803-S1	Client:	Clayton Group Services
Date Received:	03/28/03	Project:	75-03092.00
Date Extracted:	04/01/03	Lab ID:	303269-01
Date Analyzed:	04/04/03	Data File:	0400331.D
Matrix:	Soil	Instrument:	GCMS3
Units:	ug/kg (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Anthracene-d10	68	44	113
Benzo(a)anthracene-d12	79	65	134

Compounds:	Concentration: ug/kg (ppb)
Naphthalene	110
Acenaphthylene	<5
Acenaphthene	38
Fluorene	85
Phenanthrene	120
Anthracene	<5
Fluoranthene	6
Pyrene	11
Benz(a)anthracene	<5
Chrysene	<5
Benzo(b)fluoranthene	<5
Benzo(k)fluoranthene	<5
Benzo(a)pyrene	<5
Indeno(1,2,3-cd)pyrene	<5
Dibenzo(a,h)anthracene	<5
Benzo(g,h,i)perylene	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PNA Compounds By EPA Method 8270C SIM

Client Sample ID:	032803-S2	Client:	Clayton Group Services
Date Received:	03/28/03	Project:	75-03092.00
Date Extracted:	04/01/03	Lab ID:	303269-02
Date Analyzed:	04/04/03	Data File:	0400332.D
Matrix:	Soil	Instrument:	GCMS3
Units:	ug/kg (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Anthracene-d10	68	44	113
Benzo(a)anthracene-d12	73	65	134

Compounds:	Concentration: ug/kg (ppb)
Naphthalene	<5
Acenaphthylene	<5
Acenaphthene	<5
Fluorene	<5
Phenanthrene	<5
Anthracene	<5
Fluoranthene	<5
Pyrene	<5
Benz(a)anthracene	<5
Chrysene	<5
Benzo(b)fluoranthene	<5
Benzo(k)fluoranthene	<5
Benzo(a)pyrene	<5
Indeno(1,2,3-cd)pyrene	<5
Dibenzo(a,h)anthracene	<5
Benzo(g,h,i)perylene	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PNA Compounds By EPA Method 8270C SIM

Client Sample ID:	032803-S3	Client:	Clayton Group Services
Date Received:	03/28/03	Project:	75-03092.00
Date Extracted:	04/01/03	Lab ID:	303269-03 1/10
Date Analyzed:	04/04/03	Data File:	0400333.D
Matrix:	Soil	Instrument:	GCMS3
Units:	ug/kg (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Anthracene-d10	116 vo	44	113
Benzo(a)anthracene-d12	104	65	134

Compounds:	Concentration: ug/kg (ppb)
Naphthalene	17,300 ve
Acenaphthylene	<50
Acenaphthene	1,700
Fluorene	2,900
Phenanthrene	8,300 ve
Anthracene	<50
Fluoranthene	120
Pyrene	1,200
Benz(a)anthracene	<50
Chrysene	130
Benzo(b)fluoranthene	<50
Benzo(k)fluoranthene	<50
Benzo(a)pyrene	<50
Indeno(1,2,3-cd)pyrene	<50
Dibenzo(a,h)anthracene	<50
Benzo(g,h,i)perylene	<50

Note: The sample was diluted due to high levels of interfering compounds. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

vo - The value reported fell outside the control limits established for this analyte.

ve - The value reported exceeded the calibration range established for the analyte. The reported concentration is an estimate.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PNA Compounds By EPA Method 8270C SIM

Client Sample ID:	032803-S3	Client:	Clayton Group Services
Date Received:	03/28/03	Project:	75-03092.00
Date Extracted:	04/01/03	Lab ID:	303269-03 1/100
Date Analyzed:	04/04/03	Data File:	040404.D
Matrix:	Soil	Instrument:	GCMS3
Units:	ug/kg (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Anthracene-d10	137 vo	44	113
Benzo(a)anthracene-d12	128	65	134

Compounds:	Concentration: ug/kg (ppb)
Naphthalene	19,000
Acenaphthylene	<500
Acenaphthene	2,100
Fluorene	5,100
Phenanthrene	11,000
Anthracene	<500
Fluoranthene	190
Pyrene	1,100
Benz(a)anthracene	<500
Chrysene	<500
Benzo(b)fluoranthene	<500
Benzo(k)fluoranthene	<500
Benzo(a)pyrene	<500
Indeno(1,2,3-cd)pyrene	<500
Dibenzo(a,h)anthracene	<500
Benzo(g,h,i)perylene	<500

Note: The sample was diluted due to the presence of high levels of material. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

vo - The value reported fell outside the control limits established for this analyte.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PNA Compounds By EPA Method 8270C SIM

Client Sample ID:	Method Blank	Client:	Clayton Group Services
Date Received:	03/28/03	Project:	75-03092.00
Date Extracted:	04/01/03	Lab ID:	03-352 mb2
Date Analyzed:	04/04/03	Data File:	0400327.D
Matrix:	Soil	Instrument:	GCMS3
Units:	ug/kg (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Anthracene-d10	76	44	113
Benzo(a)anthracene-d12	77	65	134

Compounds:	Concentration: ug/kg (ppb)
Naphthalene	<5
Acenaphthylene	<5
Acenaphthene	<5
Fluorene	<5
Phenanthrene	<5
Anthracene	<5
Fluoranthene	<5
Pyrene	<5
Benz(a)anthracene	<5
Chrysene	<5
Benzo(b)fluoranthene	<5
Benzo(k)fluoranthene	<5
Benzo(a)pyrene	<5
Indeno(1,2,3-cd)pyrene	<5
Dibenzo(a,h)anthracene	<5
Benzo(g,h,i)perylene	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 04/18/03
Date Received: 03/28/03
Project: 75-03092.00, F&BI 303269

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 303267-03 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Diesel Extended	µg/g (ppm)	<50	<50	nm

Laboratory Code: 303267-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	µg/g (ppm)	500	<50	109	107	62-142	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	µg/g (ppm)	500	112	66-132

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

Date of Report: 04/18/03
Date Received: 03/28/03
Project: 75-03092.00, F&BI 303269

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Laboratory Code: 303279-07 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Benzene	µg/g (ppm)	0.07	0.07	0
Toluene	µg/g (ppm)	0.19	0.20	5
Ethylbenzene	µg/g (ppm)	0.70	0.72	3
Xylenes	µg/g (ppm)	3.8	3.9	3
Gasoline	µg/g (ppm)	170	200	16

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Benzene	µg/g (ppm)	0.5	82	84	68-116	2
Toluene	µg/g (ppm)	0.5	82	86	75-114	5
Ethylbenzene	µg/g (ppm)	0.5	87	89	79-114	2
Xylenes	µg/g (ppm)	1.5	75	79	75-122	5
Gasoline	µg/g (ppm)	20	93	100	51-141	7

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QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR PNA'S BY EPA METHOD 8270C SIM

Laboratory Code: 303080-05 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Naphthalene	µg/kg (ppb)	100	470	130 h
Acenaphthylene	µg/kg (ppb)	<5	<5	nm
Acenaphthene	µg/kg (ppb)	<5	<5	nm
Fluorene	µg/kg (ppb)	<5	9	nm
Phenanthrene	µg/kg (ppb)	11	31	95 h
Anthracene	µg/kg (ppb)	<5	<5	nm
Fluoranthene	µg/kg (ppb)	<5	11	nm
Pyrene	µg/kg (ppb)	7	20	27 h
Benz(a)anthracene	µg/kg (ppb)	<5	6	nm
Chrysene	µg/kg (ppb)	<5	6	nm
Benzo(b)fluoranthene	µg/kg (ppb)	<5	<5	nm
Benzo(k)fluoranthene	µg/kg (ppb)	<5	<5	nm
Benzo(a)pyrene	µg/kg (ppb)	<5	<5	nm
Indeno(1,2,3-cd)pyrene	µg/kg (ppb)	<5	<5	nm
Dibenzo(a,h)anthracene	µg/kg (ppb)	<5	<5	nm
Benzo(g,h,i)perylene	µg/kg (ppb)	<5	<5	nm

Laboratory Code: 303080-05 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Naphthalene	µg/kg (ppb)	170	100	72	56-117
Acenaphthylene	µg/kg (ppb)	170	<5	78	59-115
Acenaphthene	µg/kg (ppb)	170	<5	78	59-114
Fluorene	µg/kg (ppb)	170	<5	76	61-113
Phenanthrene	µg/kg (ppb)	170	11	77	51-122
Anthracene	µg/kg (ppb)	170	<5	63	50-116
Fluoranthene	µg/kg (ppb)	170	<5	78	52-124
Pyrene	µg/kg (ppb)	170	7	82	49-124
Benz(a)anthracene	µg/kg (ppb)	170	<5	77	50-122
Chrysene	µg/kg (ppb)	170	<5	81	48-121
Benzo(b)fluoranthene	µg/kg (ppb)	170	<5	75	52-144
Benzo(k)fluoranthene	µg/kg (ppb)	170	<5	72	55-135
Benzo(a)pyrene	µg/kg (ppb)	170	<5	66	49-128
Indeno(1,2,3-cd)pyrene	µg/kg (ppb)	170	<5	84	37-132
Dibenzo(a,h)anthracene	µg/kg (ppb)	170	<5	83	37-136
Benzo(g,h,i)perylene	µg/kg (ppb)	170	<5	82	28-132

h - RPD results are likely outside control limits due to sample inhomogeneity.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD

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Project: 75-03092.00, F&BI 303269

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR PNA'S BY EPA METHOD 8270C SIM

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	µg/kg (ppb)	170	81	83	58-121	2
Acenaphthylene	µg/kg (ppb)	170	87	89	54-122	2
Acenaphthene	µg/kg (ppb)	170	88	90	58-119	2
Fluorene	µg/kg (ppb)	170	86	88	57-122	2
Phenanthrene	µg/kg (ppb)	170	88	91	57-123	3
Anthracene	µg/kg (ppb)	170	73	75	44-125	2
Fluoranthene	µg/kg (ppb)	170	87	89	54-127	2
Pyrene	µg/kg (ppb)	170	91	94	56-123	3
Benz(a)anthracene	µg/kg (ppb)	170	88	89	50-124	1
Chrysene	µg/kg (ppb)	170	91	93	51-122	2
Benzo(b)fluoranthene	µg/kg (ppb)	170	84	88	44-149	4
Benzo(k)fluoranthene	µg/kg (ppb)	170	82	84	52-140	3
Benzo(a)pyrene	µg/kg (ppb)	170	72	74	42-129	2
Indeno(1,2,3-cd)pyrene	µg/kg (ppb)	170	94	97	48-134	3
Dibenzo(a,h)anthracene	µg/kg (ppb)	170	94	96	49-136	3
Benzo(g,h,i)perylene	µg/kg (ppb)	170	90	94	46-134	4

303269

ME 03/28/03 CI2

SAMPLE CHAIN OF CUSTODY

Send Report To: GREG FERRIS

Company: Clayton Group Services, Inc.

Address: 4636 E. Marginal Way S., Ste 215

City, State, ZIP: Seattle, WA 98134

Phone # (206) 763-7364 Fax # (206) 763-4189

SAMPLERS (signature): [signature]

PROJECT NAME/NO.: 75-03092.00

PO #:

REMARKS: PLEASE FAX PRELIM. RESULTS.

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TURNAROUND TIME
- [x] Standard (2 Weeks)
- [ ] RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- [x] Dispose after 30 days
- [ ] Return samples
- [ ] Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS		PAHs					Notes
032803-S1	01 A-B	03-28-03	0805	SOIL	1	✓	✓	✓					✓					
S2	02 A-B	↓	0825	↓	1	✓	✓	✓					✓					
S3	03 A-B	↓	0845	↓	1	✓	✓	✓					✓					

ANALYSES REQUESTED

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	[signature]	GREG FERRIS	CLAYTON	03-28-03	0915
Received by:	[signature]	ERIC YOUNG	FRB	3/28/03	0920
Relinquished by:					
Received by:					

Clayton
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