

# PERIODIC REVIEW

# Bristol-Myers Squibb Research Laboratory Facility Site ID#: 63234661

3005 1<sup>st</sup> Avenue, Seattle, Washington

**Northwest Region Office** 

TOXICS CLEANUP PROGRAM

December 2009

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### 1.0 INTRODUCTION

This document is a review by the Washington State Department of Ecology (Ecology) of post-cleanup site conditions and monitoring data to ensure that human health and the environment are being protected at the Bristol-Meyer Squibb Property (Site). Cleanup at this Site was implemented under the Model Toxics Control Act (MTCA) regulations, Chapter 173-340 Washington Administrative Code (WAC).

Cleanup activities at this Site were completed under the Voluntary Cleanup Program. The cleanup actions resulted in concentrations of petroleum hydrocarbons remaining at the Site which exceed MTCA cleanup levels. The MTCA cleanup levels for soil are established under WAC 173-340-740. The MTCA cleanup levels for groundwater are established under WAC 173-340-720. WAC 173-340-420 (2) requires that Ecology conduct a periodic review of a site every five years under the following conditions:

- (a) Whenever the department conducts a cleanup action
- (b) Whenever the department approves a cleanup action under an order, agreed order or consent decree
- (c) Or, as resources permit, whenever the department issues a no further action opinion;
- (d) and one of the following conditions exists:
  - 1. Institutional controls or financial assurance are required as part of the cleanup
  - 2. Where the cleanup level is based on a practical quantitation limit
  - 3. Where, in the department's judgment, modifications to the default equations or assumptions using site-specific information would significantly increase the concentration of hazardous substances remaining at the site after cleanup or the uncertainty in the ecological evaluation or the reliability of the cleanup action is such that additional review is necessary to assure long-term protection of human health and the environment.

When evaluating whether human health and the environment are being protected, the factors the department shall consider include [WAC 173-340-420(4)]:

- (a) The effectiveness of ongoing or completed cleanup actions, including the effectiveness of engineered controls and institutional controls in limiting exposure to hazardous substances remaining at the site;
- (b) New scientific information for individual hazardous substances of mixtures present at the site:
- (c) New applicable state and federal laws for hazardous substances present at the Site;
- (d) Current and projected site use;
- (e) Availability and practicability of higher preference technologies; and
- (f) The availability of improved analytical techniques to evaluate compliance with cleanup levels.

The Department shall publish a notice of all periodic reviews in the Site Register and provide an opportunity for public comment.

## 2.0 SUMMARY OF SITE CONDITIONS

## 2.1 Site Description and History

The property is located in Seattle, the Central Business District physiographic division (Galster and Laprade, 1991), at 3005 1st Avenue in Seattle, King County, Washington. Surrounding land use includes commercial, research laboratory, and multi-unit residential properties. It is in the NW ¼ of the NW ¼, Section 31, Township 25 North, Range 4 East with a latitude of approximately 47°37′5″ and a longitude of approximately 122°21′7″. The parcel slopes to the southwest from 1st Avenue to the alley on the southwestern boundary. The elevation at the site is between 65 to 80 feet above the National Geodetic Vertical Datum of 1929. The Site area is underlain by deposits interpreted to be Vashon Till. The till is typically comprised of dense, gravelly sandy silt to silty sand with varying amounts of clay, cobbles, and boulders. Locally, interbeds of sand and gravel may be present. The Vashon Till is underlain, by the Esperance Sand, which is underlain by the Lawton Clay.

Regional groundwater typically occurs in the lower portion of the Vashon Till and the underlying Esperance Sand. Locally, discontinuous zones of perched groundwater occur within the upper portion of the Vashon Till. Based on topographic relief of the area, and at other sites in a similar hydrogeologic setting, the flow of uppermost regional groundwater in the site area is to the west-southwest to Puget Sound. Perched groundwater present in the site area would also likely flow southwest toward Puget Sound, the nearest surface water located approximately 750 feet southwest of the site.

# 2.2 Site Investigations and Sample Results

A release of diesel fuel occurred during a power outage on October 4, 1993. Diesel fuel was accidentally discharged to a monitoring well in backfill northeast of the underground storage tank (UST). The UST was situated in a partially subgrade parking garage within the Bristol-Myers Squibb office building located at 3005 First Avenue in Seattle, Washington. An estimated 1,500 gallons of fuel was released, of which approximately 995 gallons were recovered utilizing a vacuum truck upon discovery of the release on October 5. Between October 5 and November 3, 1993 a total of approximately 370 gallons of fuel was recovered utilizing a small pump, and later, a skimming device. Since that time, small quantities of product were periodically removed from the well using a hand bailer. Sampling and analysis by Environmental Partners, Inc. (1994) indicated that the contamination appeared to be confined to the backfill around the tank, and was not evident in monitoring wells installed in the alley to the south of the UST. A tank tightness test was performed for Bristol-Myers on May 20, 1995 by ESE Corporation of Tacoma, Washington. The tank passed the tightness criteria during this test.

Laboratory analyses for the initial tank removal samples were performed by Analytical Resources, Inc., an Ecology-accredited laboratory located in Seattle, Washington. Subsequent samples collected from the excavation sidewalls and base and borings into the excavation sidewalls were analyzed by Transglobal Environmental Geosciences Northwest (TEG), an

Ecology-accredited laboratory in Lacey, Washington. Since the UST was known to have contained diesel oil, each of the soil samples was analyzed for total petroleum hydrocarbons (TPH) as diesel by Washington method WTPH-D. Five post-excavation soil samples (EX-2, EX-3, EX-4, EX-5, and EX-6) were initially collected from the sidewalls and floor of the original UST excavation after removal of the pea gravel backfill. Sidewall samples were collected from the base of the respective sidewalls at a depth of approximately seven to eight feet below ground surface (bgs). Sample EX-2 was collected from the floor of the excavation. Samples EX-3, EX-4, and EX-5 and EX-6 were collected from the northeast, southeast, northwest, and southwest sidewalls, respectively. One composite soil sample ("Stockpile") was collected from the stockpiled soils generated during the UST removal process. Sample EX-7 was collected below the former fuel line location approximately 28 feet northeast of the tank at a depth of 1½ foot bgs. Visual inspection of the fuel lines did not reveal evidence of leakage from the piping. The results of the excavation samples all indicated hydrocarbons as diesel within the soils at concentrations greater than the MTCA method A cleanup levels. Analytical results of the sample collected from beneath the former fuel lines (EX-7) indicate TPH as diesel was detected at a concentration of 420 milligrams per kilogram (mg/kg), which exceeds the MTCA method A cleanup level. This concentration was attributed to leakage during the disconnection of the piping. Additional soils were excavated from the trenched area below the sampling location until no visual staining or elevated organic vapors were detected.

A second round of samples was collected by boring into the excavation walls at a depth of approximately 8 feet bgs. The borings were completed at a horizontal distance of 2½ to 3 feet from the wall when refusal or unstained soils were encountered. A slide-hammer driven, decontaminated stainless steel sampler was used to collect the samples. Sample EX-8 was collected from beneath the floor of the excavation at a depth of 11½ feet bgs. Samples EX-9, EX-10, EX-11, and EX-12 were collected from the northeast, southeast, southwest and northwest sidewalls, respectively. The analytical results for sample EX-8 indicated diesel concentrations of less than MTCA Method A cleanup levels at a depth of 11½ feet bgs in the floor of the excavation. Diesel concentrations in the other sidewall samples exceeded the method A levels. Samples EX-9 and EX-11 had reduced concentrations of one order of magnitude less than concentrations in the initial sidewall samples. These results suggested that the level of diesel contamination was diminishing at those locations. Samples EX-10 and EX-12 yielded concentrations higher than the original samples from these sidewalls. Based on these results, additional excavation of soils was completed to the physical limitations specified by structural engineers, KPFF Consulting Engineers, hired by Bristol-Myers Squibb to determine the safe, maximum extent of excavation relative to the structural columns.

Upon completion of the additional excavation, an additional nine sidewall samples were collected from the excavation walls. The excavation floor was deepened to 11½ feet bgs, the depths of sample EX-8. The soils exhibited a noticeable change from being stained gray to brown at a depth of approximately 11 to 11½ feet bgs. These samples, numbered EX-13 through EX-19, were collected at a depth of 9 feet bgs, with the exception of EX-18 and EX-19, which were collected from the sidewalls at a depth of 5 feet bgs. A decontaminated stainless steel spoon and laboratory-supplied glassware were used to collect the samples. Samples EX-20 and EX-21, were also collected from auger borings into the southwest and southeast sidewalls, respectively.

The borings were drilled two feet horizontally into the sidewalls at depths of 9½ feet bgs at EX-20 and 10 feet bgs at EX-21. A decontaminated stainless steel slide-hammer sampler was used to collect the samples. Samples EX-13 through EX-20 yielded TPH as diesel results which exceed the method A Cleanup Levels. Field observations and these analytical results indicate preferential lateral migration of diesel fuel into the lens of sandy soils observed at an approximate depth of 9 to 11 feet bgs in the southeast, southwest, and northwest portions of the excavation. The TPH as diesel concentration in sample EX-21, located approximately 2 feet beyond the final southeast excavation wall, is below the cleanup level. The southeast portion of the excavation is where some of the highest TPH concentrations and greatest visual evidence of diesel were detected prior to final excavation. This sample was also collected the furthest distance from the original UST excavation walls. Given the nature of soils exposed in the excavation walls, this suggests that similar attenuation of TPH concentrations are likely at similar distances in other directions from the UST.

Dames & Moore collected groundwater samples on July 25 for analysis by WTPH-D for diesel from monitoring wells MW-2 and MW-3, located in the alley adjacent to the parking garage. The wells were accessed and water levels were measured with an electronic water level indicator. Prior to sampling, groundwater was purged from each well to remove stagnant water and induce the flow of groundwater from the soils to the well. The wells were purged and sampled with dedicated, disposable polyethylene bailers. Well MW-2 was purged dry, and a sample collected from the limited recharge that entered the well. Three purge volumes were removed from well MW-3 before sampling. Water purged during the sampling procedure was observed to be turbid, with no apparent sheen or odor. The purge water was stored in a labeled "carboy" type container on-site for disposal upon receipt of laboratory analysis. The samples were immediately transferred to dedicated sampling containers, packed into a cooler with ice, and shipped by overnight courier to TEG for analysis.

# 2.3 Cleanup Actions

The cleanup effort included:

- 1. removal of the 1500-gallon diesel oil UST from the subject property in accordance with local, state, and federal regulations/guidelines;
- 2. evaluation of the presence of petroleum hydrocarbons in soils associated with the 1993 release by performing a UST site assessment;
- 3. removal and treatment of diesel-contaminated soils at a permitted, off-site treatment facility;
- 4. replacement of the tank with a compliant double-wall 2000-gallon capacity UST; and
- 5. recommendations for additional subsurface investigations or remedial actions, if deemed necessary.

Approximately 130 cubic yards (189 tons) of soils containing petroleum hydrocarbons were excavated from this site and treated at Holnam's facility where the soils were thermally treated in a rotary kiln and subsequently incorporated into concrete or cement. In addition, the former 1,500-gallon UST and associated piping and approximately 350 square feet of concrete was

removed and diagnosed/recycled at offsite facilities. The total volume of soil removed was based on the field screening of excavated soils by Dames & Moore, laboratory analyses of post-excavation soil samples performed by TEG, and physical limitations.

During excavation, the soils were screened by visual observation and measurement of head-space vapors (HSV) using a portable organic vapor monitor with a photoionization detector (PID). In general, soils were excavated until visual and PID screening did not indicate the presence of hydrocarbons and/or the physical limit of excavation was reached. Closure samples were then collected and submitted to TEG for confirmatory analysis using Washington method WTPH-D. Structural walls precluded complete excavation of impacted soils without significant and costly shoring of the building.

Soils exposed in the walls of the original UST excavation were brown, medium sandy gravel fill to a depth of 1 foot below ground surface (bgs). At 1 foot bgs, the native soils consist of dense brown silty sandy clay. This material is interpreted to be glacial till. The till graded to gray at a depth of approximately seven feet. A silty sand lens was present between depths of approximately 8 to 11 feet along the southeast, southwest and northwest walls of the excavation. This sand layer was somewhat irregular in thickness and shape, and appeared to dip towards the south. The excavation for the former UST was filled with pea gravel backfill. Evidence of hydrocarbon-stained soils was observed and hydrocarbon odors were detected in the UST excavation below a depth of approximately four feet. The stained soils near the UST appeared to be the result of the 1993 release, and were especially prevalent in the immediate vicinity of the former monitor well location. The stained soils extended to some distance beyond the walls' final limits of the excavation. The sampling rounds characterized the hydrocarbon concentrations at the excavation limits. Field screening soil samples during excavation detected odors and elevated PID readings.

Groundwater was encountered at a depth of approximately 8 feet bgs during the initial excavating activities. A thin discontinuous layer of immiscible hydrocarbon was visually observed on the surface of the water after the backfill was removed. The groundwater seeped into the excavation slowly after the initial water was removed from the excavation. The principal source area of the water was the sand lens. Water from the excavation was periodically pumped into an onsite storage tank, from where it was transported offsite for chemical and thermal treatment by Philip Environmental. Over the course of the project, a total of approximately 1,775 gallons were removed from the excavation and the excavation area was dewatered. This suggests the groundwater encountered was perched within the fill and is probably of limited lateral extent. Evidence of stained soils or hydrocarbon odors was not observed in soils directly beneath the underground supply lines.

## 2.4 Cleanup Levels

Soils containing a concentration of TPH as diesel exceeding the method A cleanup level of 200 mg/kg, as specified in the Washington Model Toxics Control Act (MTCA) (WAC 173-340), were targeted for removal and offsite treatment. However, not all contaminated soils could be

removed, and the remaining contaminated soil was isolated, contained, and controlled to protect human health and the environment.

#### 2.5 Restrictive Covenant

Based on the site use, surface cover and cleanup levels, it was determined that the Site was eligible for a 'No Further Action' determination if a Restrictive Covenant was recorded for the property. A Restrictive Covenant was recorded for the Site in 1999 which imposed the following limitations:

Section 1. "A portion of the Property contains diesel range total petroleum hydrocarbons contaminated soil located beneath load bearing walls, structural columns and the elevator on the southern side of the building in the immediate vicinity of the loading dock (see Figure 2 of the Dames & Moore report). The Owner shall not alter, modify, or remove the existing structure[s] in any manner that may result in the release or exposure to the environment of that contaminated soil or create a new exposure pathway without prior written approval from Ecology."

b. "Any activity on the Property that may result in the release or exposure to the environment of the contaminated soil that was contained as part of the Remedial Action or create a new exposure pathway is prohibited. Some examples of activities that are prohibited in the capped areas include drilling, digging, placement of any objects, or use of any equipment which deforms or stresses the surface beyond its load bearing capability, piercing the surface with a rod, spike, or similar item, bulldozing, or earthwork."

Section 2. Any activity on the Property that may interfere with the integrity of the Remedial Action and continued protection of human health and the environment is prohibited.

Section 3. Any activity on the Property that may result in the release or exposure to the environment of a hazardous substance that remains on the Property as part of the Remedial Action or create a new exposure pathway is prohibited without prior written approval from Ecology.

Section 4. The Owner of the property must give thirty- (30) day advance written notice to Ecology of the Owner's intent to convey any interest in the Property. No conveyance of title, easement, lease or other interest in the Property shall be consummated by the Owner without adequate and complete provision for continued monitoring operation and maintenance of the Remedial Action.

Section 5. The Owner must restrict leases to uses and activities consistent with the Restrictive Covenant and notify all lessees of the restrictions on the use of the Property.

Section 6. The Owner must notify and obtain approval from Ecology prior to any use of the Property that is inconsistent with the terms of this Restrictive Covenant. Ecology may approve any inconsistent use only after public notice and comment.

Section 7. The Owner shall allow authorized representatives of Ecology the right to enter the Property at reasonable times for the purpose of evaluating the Remedial Action, to take samples, to inspect remedial actions conducted at the property, and to inspect records that are related to the Remedial Action.

Section 8. The Owner of the Property reserves the right under WAC 173-340-440 to record an instrument that provides that this Restrictive Covenant shall no longer limit use of the Property or be of any further force or effect. However, such an instrument may be recorded only if Ecology, after public notice and opportunity for comment, concurs.

The Restrictive Covenant is available as Appendix 6.4.

## 3.0 PERIODIC REVIEW

## 3.1 Effectiveness of completed cleanup actions

The Restrictive Covenant for the Site was recorded and is in place. This Restrictive Covenant prohibits activities that will result in the release of contaminants at the Site without Ecology's approval, and prohibits any use of the property that is inconsistent with the Covenant. This Restrictive Covenant serves to ensure the long term integrity of the remedy.

Based upon the site visit conducted on December 9, 2009, the building and parking garage floor at the Site continue to eliminate exposure to contaminated soils by ingestion and contact. The remedy appears in satisfactory condition and no repair, maintenance, or contingency actions have been required. The Site is still operating as a office building and research laboratory. A photo log is available as Appendix 6.5.

Soils with TPH concentrations higher than MTCA cleanup levels are still present at the Site. However, the remedy (Site structures and impervious surface) prevents human exposure to this contamination by ingestion and direct contact with soils. The Restrictive Covenant for the property will ensure that the contamination remaining is contained and controlled.

# 3.2 New scientific information for individual hazardous substances for mixtures present at the Site

There is no new scientific information for the contaminants related to the Site.

# 3.3 New applicable state and federal laws for hazardous substances present at the Site

The cleanup at the site was governed by Chapter 173-340 WAC (1996 ed.). WAC 173-340-702(12) (c) [2001 ed.] provides that,

"A release cleaned up under the cleanup levels determined in (a) or (b) of this subsection shall not be subject to further cleanup action due solely to subsequent amendments to the provision in this chapter on cleanup levels, unless the department determines, on a case-by-case basis, that the previous cleanup action is no longer sufficiently protective of human health and the environment."

Although cleanup levels changed for petroleum hydrocarbon compounds as a result of modifications to MTCA in 2001, contamination remains at the site above the new MTCA Method A and B cleanup levels. Even so, the cleanup action is still protective of human health and the environment. A table comparing MTCA cleanup levels from 1991 to 2001 is available below.

Analyte	1991 MTCA Method A Soil Cleanup Level (ppm)	2001 MTCA Method A Soil Cleanup Level (ppm)	1991 MTCA Method A Groundwater Cleanup level (ppb)	2001 MTCA Method A Groundwater Cleanup Level (ppb)
Cadmium	2	2	5	5
Lead	250	250	5	15
TPH	NL	NL	1000	NL
TPH-Gas	100	100/30	NL	1000/800
TPH- Diesel	200	2000	NL	500
TPH-Oil	200	2000	NL	500
NL = None listed				

## 3.4 Current and projected site use

The site is currently used for commercial (offices and laboratory research) purposes. There have been no changes in current or projected future site or resource uses.

# 3.5 Availability and practicability of higher preference technologies

The remedy implemented included containment of hazardous substances, and it continues to be protective of human health and the environment. While higher preference cleanup technologies may be available, they are still not practicable at this Site.

# 3.6 Availability of improved analytical techniques to evaluate compliance with cleanup levels

The analytical methods used at the time of the remedial action were capable of detection below selected site cleanup levels. The presence of improved analytical techniques would not affect decisions or recommendations made for the site.

## 4.0 CONCLUSIONS

The following conclusions have been made as a result of this periodic review:

- The cleanup actions completed at the Site appear to be protective of human health and the environment.
- Soils cleanup levels have not been met at the standard point of compliance for the Site; however, the cleanup action has been determined to comply with cleanup standards since the long-term integrity of the containment system is ensured, and the requirements for containment technologies are being met.
- The Restrictive Covenant for the property is in place and continues to be effective in protecting public health and the environment from exposure to hazardous substances and protecting the integrity of the cleanup action.

Based on this periodic review, the Department of Ecology has determined that the requirements of the Restrictive Covenant continue to be met. No additional cleanup actions are required by the property owner. It is the property owner's responsibility to continue to inspect the site to assure that the integrity of the remedy is maintained.

#### 4.1 Next Review

The next review for the site will be scheduled five years from the date of this periodic review. In the event that additional cleanup actions or institutional controls are required, the next periodic review will be scheduled five years from the completion of those activities.

## 5.0 REFERENCES

Monitoring Well Construction and Ground Water Sampling Oncogen, Seattle Washington, by ERM-Northwest, dated February 20, 1990;

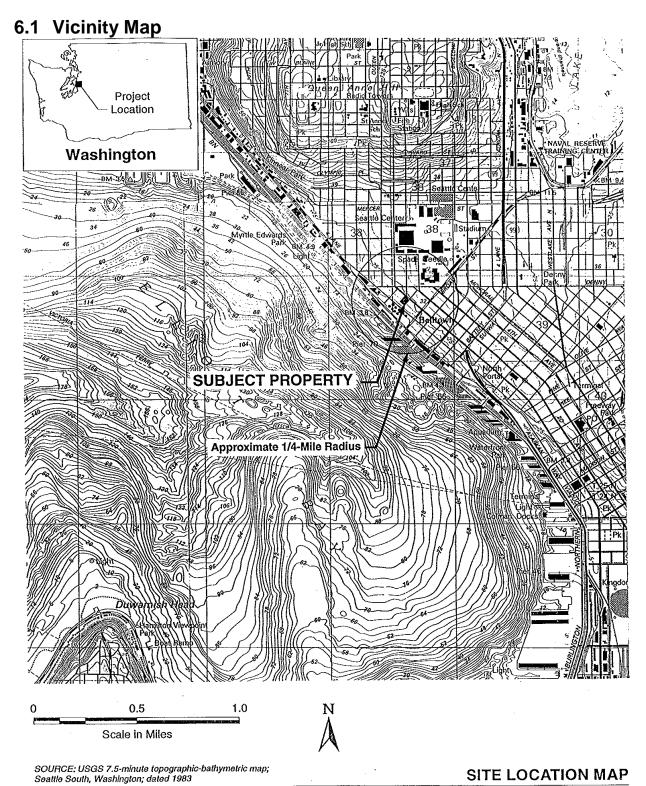
Underground Storage Tank Site Characterization-3005 First Avenue Seattle Washington by Environmental Partners, Inc., dated June 15, 1994;

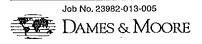
Final Report UST Closure and Independent Remedial Action-Pharmaceutical Research Institute Seattle Washington, by Dames & Moore, dated November 8, 1995;

Ecology, 1999, Restrictive Covenant.

Ecology, 2009, Site Visit.

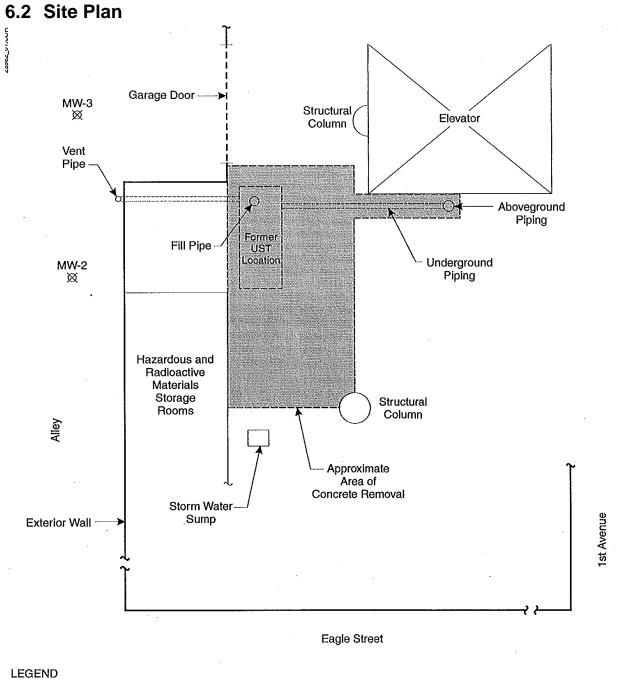
# 6.0 APPENDICES

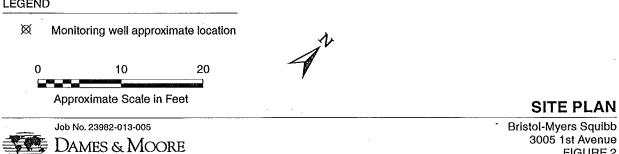




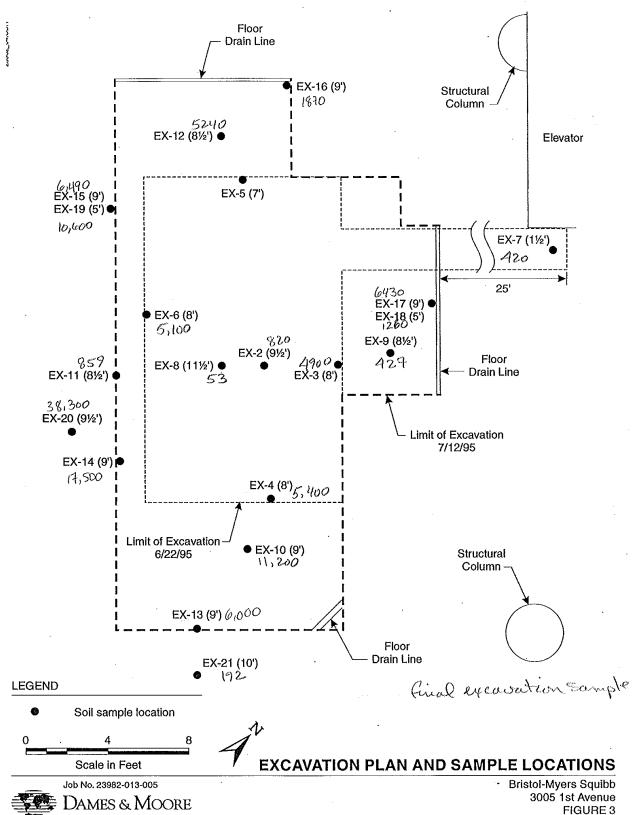
- Bristol-Myers Squibb 3005 1st Avenue FIGURE 1

FIGURE 2





# 6.3 TPH-Dx Concentration Map



#### 6.4 Environmental Covenant

ARE-3005 First Avenue, LLC 135 N. Los Robles Avenue, Suite 250 Pasadena, California 91101

Attn - June Ledwin

#### RESTRICTIVE COVENANT

This declaration of Restrictive Covenant is made pursuant to RCW 70 105D 030(1)(f and g), and WAC 173-340-440 Name of Property Owner, it successors and assigns, and the Washington State Department of Ecology, its successors and assigns

Legal Description See Attached

Tax Parcel 1 D # 069500-0135-08

Grantor: ARE-3005 First Avenue, LLC

Legal Description:

PARCEL C:

LOTS 10, 11 AND 12 IN BLOCK E OF FOURTH ADDITION TO THE CITY OF SEATTLE, AS LAID OFF BY WM. N. BELL, AS PER PLAT RECORDED IN VOLUME 1 OF PLATS, PAGE 167, RECORDS OF KING COUNTY;

EXCEPT THAT PORTION CONDEMNED IN KING COUNTY SUPERIOR COURT CAUSE NO. 7092 FOR WIDENING FRONT STREET, NOW "FIRST AVENUE", AS PROVIDED BY ORDINANCE NO. 1129;

ALSO DESCRIBED AS FOLLOWS:

THAT PORTION OF LOTS 10, 11 AND 12 IN BLOCK 3 OF PLAT OF THE 4TH ADDITION TO THE CITY OF SEATTLE, AS LAID OFF BY WILLIAM N. BELL (COMMONLY KNOWN AS WILLIAM N. BELL'S 4TH ADDITION TO THE CITY OF SEATTLE), AS PER PLAT RECORDED IN VOLUME 1 OF PLATS, PAGE167, RECORDS OF KING COUNTY.

SEE ATTACHED PAGE FOR ADDITIONAL DETAILS.



3005 First Avanue

Order No. 867004

#### PARCEL C:

LOTS 10, 11 AND 12 IN BLOCK E OF FOURTH ADDITION TO THE CITY OF SEATTLE, AS LAID OFF BY WM. N. BELL, AS PER PLAT RECORDED IN VOLUME 1 OF PLATS, PAGE 167, RECORDS OF KING COUNTY;

EXCEPT THAT PORTION CONDEMNED IN KING COUNTY SUPERIOR COURT CAUSE NO. 7092 FOR WIDENING FRONT STREET, NOW "FIRST AVENUE", AS PROVIDED BY ORDINANCE NO. 1129;

ALSO DESCRIBED AS FOLLOWS:

THAT PORTION OF LOTS 10, 11 AND 12 IN BLOCK 3 OF PLAT OF THE 4TH ADDITION TO THE CITY OF SEATTLE, AS LAID OFF BY WILLIAM N. BELL (COMMONLY KNOWN AS WILLIAM N. BELL'S 4TH ADDITION TO THE CITY OF SEATTLE), AS PER PLAT RECORDED IN VOLUME 1 OF PLATS, PAGE 167, RECORDS OF KING COUNTY, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE MONUMENT AT THE INTERSECTION OF EAGLE STREET AND WESTERN AVENUE;
THENCE NORTH 47°46'02" WEST ALONG THE MONUMENTED CENTER LINE OF WESTERN AVENUE 33.00 FEET;
THENCE NORTH 42°13'49" EAST PARALLEL WITH THE MONUMENTED CENTERLINE OF EAGLE STREET 33.00 FEET TO THE SOUTHERNMOST CORNER OF LOT 1 IN BLOCK E OF PLAT OF THE 4TH ADDITION TO THE CITY OF SEATTLE, AS LAID OFF BY WILLIAM N. BELL (COMMONLY KNOWN AS WILLIAM N. BELL'S 4TH ADDITION TO THE CITY OF SEATTLE), AS PER PLAT RECORDED IN VOLUME 1 OF PLATS, PAGE 167, RECORDS OF KING COUNTY;
THENCE NORTH 42°13'49" EAST ALONG THE SOUTHEASTERLY LINE OF SAID LOT 1 A DISTANCE OF 120.06 FEET TO THE EASTERNMOST CORNER OF SAID LOT 1;
THENCE NORTH 42°13'49" EAST 16.00 FEET TO THE SOUTHERNMOST CORNER OF SAID LOT 12 AND THE TRUE POINT OF BEGINNING;
THENCE NORTH 42°13'49" EAST ALONG THE SOUTHWESTERLY LINE OF SAID LOTS 10, 11 AND 12 A DISTANCE OF 180.18 FEET TO THE WESTERNMOST CORNER OF SAID LOT 10;
SAID LOTS 10, 11 AND 12 A DISTANCE OF 180.18 FEET TO THE SAID LOTS 10, 11 AND 12 A DISTANCE OF 180.18 FEET TO THE SAID LOT 10 A DISTANCE OF 111.04 FEET TO THE SOUTHWESTERLY LINE OF SAID LOT 10 A DISTANCE OF 111.04 FEET TO THE SOUTHWESTERLY LINE OF SAID LOT 10 A DISTANCE OF 111.04 FEET TO THE SOUTHWESTERLY LINE OF SAID LOT 10 A DISTANCE OF 111.04 FEET TO THE SOUTHWESTERLY LINE OF SAID LOT 10 A DISTANCE OF 111.04 FEET TO THE SOUTHWESTERLY LINE OF SAID LOT 10 A DISTANCE OF 111.04 FEET TO THE SOUTHWESTERLY LINE OF SAID LOT 10 A DISTANCE OF 111.04 FEET TO THE SOUTHWESTERLY LINE ORDINANCE NO. 1129;
THENCE SOUTH 47°46'48" EAST ALONG SAID RIGHT-OF-WAY LINE 180.18 FEET TO THE SOUTHEASTERLY LINE OF SAID LOT 12 A DISTANCE OF 111.06 FEET TO THE TRUE POINT OF SEATTLE ORDINANCE NO. 1129;
THENCE SOUTH 42°13'49" WEST ALONG THE SOUTHEASTERLY LINE OF SAID LOT 12 A DISTANCE OF 111.06 FEET TO THE TRUE POINT OF SEATTLE SAID LOT 12 A DISTANCE OF 111.06 FEET TO THE TRUE POINT OF SEGINNING;

SITUATE IN THE CITY OF SEATTLE, COUNTY OF KING, STATE OF WASHINGTON.



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19990709000794 PAGE 003 OF 007 07/09/1999 11 34 KING COUNTY, NA

#### RESTRICTIVE COVENANT

Alexandria Real Estate Equities, LLC 3005 First Avenue, Seattle, WA

This Declaration of Restrictive Covenant is made pursuant to RCW 70 105D 030(1)(f) and (g) and WAC 173-340-440 ARE-3005 First Avenue, LLC, a Delaware limited liability company, its successors and assigns, and the State of Washington Department of Ecology, its successors and assigns (hereafter "Ecology")

An independent remedial action (hereafter "Remedial Action") occurred at the property that is the subject of this Restrictive Covenant. The Remedial Action conducted at the property is described in the following documents:

- 1 Monitoring Well Construction and Ground Water Sampling, Oncogen, Seattle, Washington by ERM-Northwest, Inc., dated February 20, 1990
- 2 Underground Storage Tank Site Characterization-3005 First Avenue, Seattle, Washington by Partners, Inc dated June 15, 1994
- 3 Final Report UST Closure and Independent Remedial Action-Pharmaceutical Research Institute Seattle, Washington by Dames&Moore dated November 8, 1995

These documents are on file at Ecology's Northwest Regional Office

This Restrictive Covenant is required because the Remedial Action resulted in residual concentrations of diesel range total petroleum hydrocarbons which exceed the Model Toxics Control Act A Residential Cleanup Levels for soil established under WAC 173-340-700

The undersigned, ARE-3005 First Avenue, LLC, is the fee owner of real property (hereafter "Property") in the County of King, State of Washington, that is subject to this Restrictive Covenant. The Property is legally described in attachment A of this restrictive covenant and made a part hereof by reference.

ARE-3005 First Avenue, LLC makes the following declaration as to limitations, restrictions, and uses to which the Property may be put and specifies that such declarations shall constitute covenants to run with the land, as provided by law and shall be binding on all parties and all persons claiming under them, including all current and future owners of any portion of or interest in the Property (hereafter "Owner")

Section 1 "A portion of the Property contains diesel range total petroleum hydrocarbons contaminated soil located beneath load bearing walls, structural columns and the elevator on the southern side of the building in the immediate vicinity of the loading dock (see Figure 2 of the Dames&Moore report) The Owner shall not alter, modify, or remove the existing structure[s] in



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any manner that may result in the release or exposure to the environment of that contaminated soil or create a new exposure pathway without prior written approval from Ecology."

b "Any activity on the Property that may result in the release or exposure to the environment of the contaminated soil that was contained as part of the Remedial Action, or create a new exposure pathway, is prohibited. Some examples of activities that are prohibited in the capped areas include drilling, digging, placement of any objects or use of any equipment which deforms or stresses the surface beyond its load bearing capability, piercing the surface with a rod, spike or similar item, bulldozing or earthwork."

Section 2 Any activity on the Property that may interfere with the integrity of the Remedial Action and continued protection of human health and the environment is prohibited Section 3 Any activity on the Property that may result in the release or exposure to the environment of a hazardous substance that remains on the Property as part of the Remedial Action, or create a new exposure pathway, is prohibited without prior written approval from Ecology

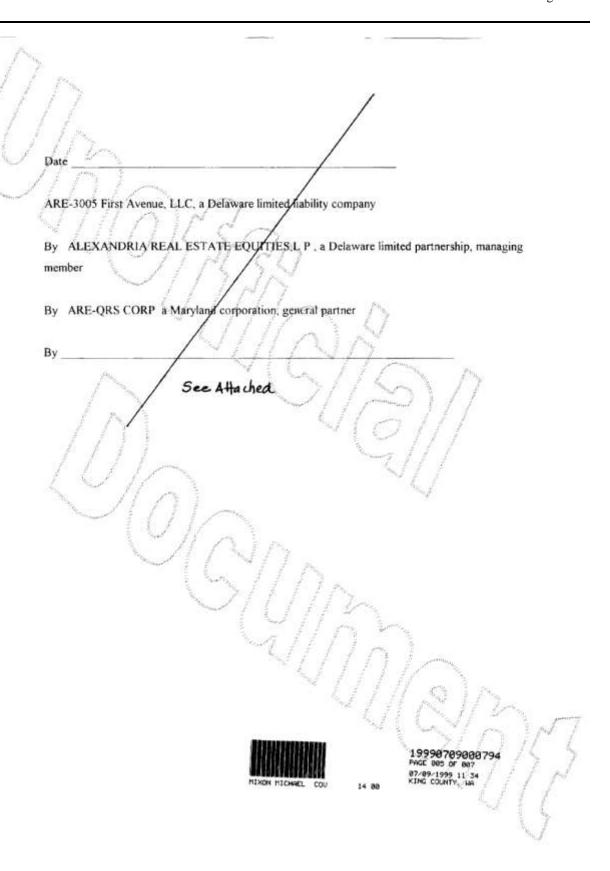
Section 4 The Owner of the property must give thirty- (30) day advance written notice to Ecology of the Owner's intent to convey any interest in the Property. No conveyance of title, easement, lease, or other interest in the Property shall be consummated by the Owner without adequate and complete provision for continued monitoring, operation, and maintenance of the Remedial Action

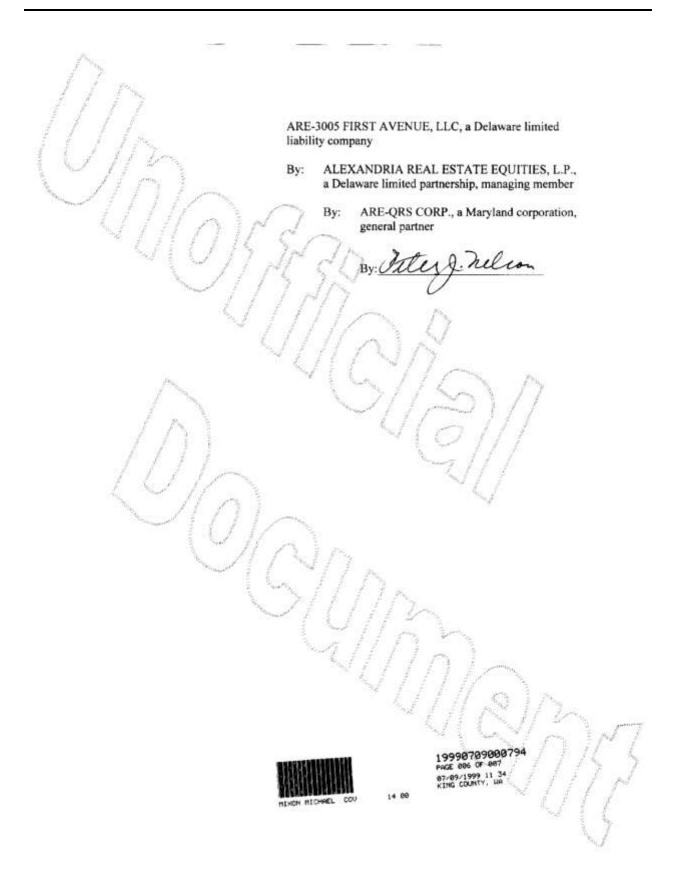
Section 5 The Owner must restrict leases to uses and activities consistent with the Restrictive Covenant and notify all lessees of the restrictions on the use of the Property

Section 6 The Owner must notify and obtain approval from Ecology prior to any use of the Property that is inconsistent with the terms of this Restrictive Covenant Ecology may approve any inconsistent use only after public notice and comment

Section 7 The Owner shall allow authorized representatives of Ecology the right to enter the Property at reasonable times for the purpose of evaluating the Remedial Action, to take samples, to inspect remedial actions conducted at the property, and to inspect records that are related to the Remedial Action

Section 8 The Owner of the Property reserves the right under WAC 173-340-440 to record an instrument that provides that this Restrictive Covenant shall no longer limit use of the Property or be of any further force or effect. However, such an instrument may be recorded only if Ecology, after public notice and opportunity for comment, concurs





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# 6.5 Photo log

Photo 1: Front of 3005 1st Ave. (lab) building - from the east



Photo 2: Current tenant of 3005 1st Ave. - front of bldg.

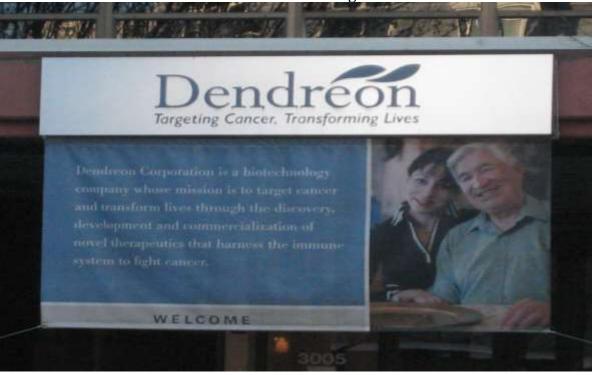


Photo 3: Rear of laboratory research bldg. in alley just west of cont.—looking southeast



Photo 4: Alley at rear of lab bldg., dumpsters by closed garage door – looking north

