PERIODIC REVIEW

Ferguson Terminals,
formerly part of the former
Birmingham Steel/Salmon Bay Steel
Facility Site ID#: 2444

4207 9th Avenue NW,
Seattle, Washington

Northwest Region Office

TOXICS CLEANUP PROGRAM

August 2010

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 [site name] (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 [or IRAP]. The cleanup actions resulted in concentrations of petroleum hydrocarbons and chromium 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 includes an irregular-shaped parcel covering approximately 4.8 acres of land. Improvements to the property include a single-story concrete tilt-up and metal warehouse building enclosing approximately 52,467 square feet of space which was reportedly erected in 1973. Various businesses reside in the warehouse building, formerly known as Warehouse #4, now Ferguson Terminals. There are various addresses associated with the warehouse, including the address in Ecology's records, 4207 9th NW. 4209 is now associated with the business Saturn Design, located at the end of the warehouse facing the Fred Meyer store. Other addresses appear to be 4203 and 4205, the amphibious vehicle ("duck") maintenance and repair location, and vacant, respectively. The county records list the 4205 9th NW address for the parcel. Additional improvements include a small metal shed known as the pump house and an office located along the shoreline. Asphalt paving effectively surrounds the warehouse. The property was vacant when the cleanup effort was being finalized (late 1998, early 1999), but was occupied previously by Birmingham Steel, which was formerly operated by Northwest Steel Rolling Mills, then Salmon Bay Steel. The Birmingham Steel property formerly occupied a much larger parcel which covered approximately 19.4 acres extending to the north of and including the Site. Only one building remained in 1998 on this adjacent parcel, although according to archive and Assessor's office records, between 11 and 15 buildings formerly occupied the entire Birmingham Steel parcel. The building was located in a predominantly industrial/light industrial area approximately 5 miles north of downtown Seattle, Washington. A Fred Meyer retail development occurred on some of this property to the north of the warehouse.

The Site is situated in what is locally known as the Ballard Interbay Northend Industrial Center, with the Site lying approximately midway between the Fremont and Ballard neighborhoods of Seattle, which lie along the north side of the Lake Washington Ship Canal and Salmon Bay. The property was bordered on the east by Bowles Company Northwest, a plumbing supply company, which occupied the former Northwest Nut and Bolt Company property. Bowles Company subleased a small part of their property to Cully bolts and metal fasteners. Further east was a vacant parcel that was under development, a junkyard and AA Rentals. To the northeast was the former Warehouse #3 of Birmingham Steel. To the southeast was and is Marine Fluid Systems, a boat repair and painting facility. The site is bordered on the southwest by the Lake Washington Ship Canal. Marinas are located along the south side of the Lake Washington Ship Canal, with a seafood processor located to the west-southwest. These businesses were located over 480 feet to the southwest of the Site. The Site was bordered on the west by Canal Boat Yard, with 11th Avenue Northwest further west. Across 11th Avenue Northwest was the Divers Institute of Seattle. To the northwest of the Site was Coastal Marine Engines and Seattle Yacht Service north of the Canal Boat Yard. According to the City of Seattle Zoning Department, the property is zoned as either IG1-U/65 or IG2-U/65, both of which are industrial zonings (General Industrial 1 and General Industrial 2).

Shallow groundwater in the vicinity of the property flows in a southwesterly direction. Groundwater flow was determined to flow at nearly right angles toward the shoreline of the Lake Washington Ship Canal, which defines the southwest boundary of the property.

2.2 Site Investigations and Sample Results

Birmingham Steel/Salmon Bay Steel ceased operations in the early 1990s at the Site and put the property up for sale. Fred Meyer, Inc., was interested in developing the property for a new retail store, and retained Hart Crowser to assess contamination issues. Hart Crowser presented the findings of their work on March 1, 1993 to Stoel Rives Boley Jones and Grey, and Perkins Coie, attorneys for Birmingham Steel and Fred Meyer, respectively. Total petroleum hydrocarbons (TPH) exceeding the Method A cleanup level published in the MTCA were identified at Hart Crowser test pit excavations TP-23, TP-24, TP-26, TP-27, borings B-13, B-14, and composite surface samples MSS-1, MSS-2, and MSS-8 in soil. Only soil at MSS-l, MSS-2, and MSS-8 were above the ultimate cleanup level established later for petroleum following review of the proposed cleanup plan developed by Hart Crowser by Ecology. Arsenic was found to be above the cleanup level in soil at TP-20, TP-21, MSS-l, MSS-2, and MSS-8; however, all of these concentrations were below the MTCA Method A Industrial cleanup level. Please note that the Fred Meyer parcel was developed commercially, while the subject Site is to remain an industrial site with an industrial zoning designation. Chromium was found to be present above the Method A Industrial cleanup level at TP-20 and TP-21. Carcinogenic polynuclear aromatic hydrocarbons (cPAHs), total chromium and lead, and polychlorinated biphenyls (PCBs) were found to be present in concentrations above the cleanup level at HC-6/B-12 in the groundwater. Please note that subsequent sampling and analysis of these wells revealed that contaminant concentrations had fallen to concentrations below the cleanup level for groundwater published in MTCA; however, several wells were not re-sampled for contaminants identified in the initial sampling round, specifically cPAHs. Furthermore, groundwater in at least one well (HC-6/B- 12) continued to show elevated concentrations of TPH above, at, or very near the cleanup level. The report also made an attempt to establish the most cost-effective cleanup approach for the entire Birmingham Steel property, as well as to attempt to determine the appropriate cleanup levels for arsenic, lead and total petroleum hydrocarbons. Please note that no PCBs were identified at the Warehouse #4 Site (the shoreline parcel) in soil above the Method A Industrial cleanup level, nor the generic Method A soil cleanup level (for residential uses). The environmental assessment completed as a part of the cleanup action plan apparently did not identify the presence of the Oil House south of the foundry, or the boiler formerly located in the foundry.

J. G. Ferguson Agency retained Environmental Associates, Inc. (EAI) as a part of due diligence to perform limited sampling and testing through completion of test pit excavations at the property. Test pits were completed on July 31, 1998. The results of laboratory analyses of soil samples (and a single groundwater sample) obtained as a part of that work are summarized in EAI, July 31, 1998 Sampling and Analysis. Concentrations of chromium were found to be present above the Method A Industrial cleanup level at test pit TP-2 at depths of four feet and eight feet, with the concentration of chromium at 8 feet being 570 milligrams per kilogram (mg/kg) only slightly above the Method A Industrial cleanup level (500 mg/kg). Mild to strong petroleum odors were noted in shallow soils at the 3 feet to 5 feet depth at TP-1 and TP-5. Total

petroleum hydrocarbons (TPH) were detected at TP-l at a depth of 1.5 feet at concentrations of 820 mg/kg, and at TP-5 at a depth of 3 feet at 4,100 mg/kg diesel range petroleum hydrocarbons, and 2,100 mg/kg oil range hydrocarbons. Concentrations of TPH as oil were found to be present above the Method A Industrial Cleanup level at TP-1, TP-2, TP-4, and TP-5, with a concentration of TPH as diesel exceeding the cleanup level identified only at the TP-5 locality at a depth of 4.5 feet.

On the basis of the results of test pit excavation work summarized in the report to J.G. Ferguson Agency dated August 12, 1998, a proposal was presented on September14, 1998 to complete the removal of the petroleum impacted soil at the TP-5 location only, which appeared to be a result of a surface spill of petroleum which had impacted approximately 30 cubic yards of soil (or less). The proposal was to excavate soil at this location only, as the concentrations of TPH identified at TP-5 were considerably in excess of both the Site-specific cleanup level and the MTCA Method A Industrial cleanup level.

Four soil borings were completed by EAI on October 13, 1998 at the locations noted as MW-l, MW-2, MW-3, and MW-4. The boring locations were chosen based upon the shallow groundwater flow direction to the southwest as determined by previous studies by Hart Crowser. Four (4) additional test pit excavations were completed on November 3, 1998, across the property in addition to the four that we completed as a part of the August 1998 work. One of these test pit explorations (TP-6) was located along the southwestern property boundary, and the remaining three (3) excavations (TP-7, TP-8 and TP-9) were located to the north and/or west of the previous test pit exploration TP-1 in an area that needed further characterization. Two samples were obtained from each test pit excavation for later analysis.

TP-6, TP-9, and MW-2 had noticeable odors of hydrocarbons, but only a faint odor of hydrocarbons were noted in shallow soils at MW-1. Sheens were noted on groundwater seeping into the excavations (or on soil samples) at TP-7, TP-9, and MW-2. Groundwater was encountered at a depth of approximately 9 to 12 feet during drilling/excavation, with a stabilized groundwater table measured at approximately 6 feet to 8 feet below ground surface in the four wells completed at the Site. TP-6 at a depth of 8 feet, MW-2 at a depth of approximately 17 feet, and MW-3 at depths of approximately 7.5 and 12.5 feet had concentrations of diesel range petroleum hydrocarbons detected that are above the Method A Industrial cleanup level of 200 mg/kg; however, these concentrations are below the Site specific cleanup level of 600 mg/kg developed by Hart Crowser for the larger Birmingham Steel site. Petroleum hydrocarbons in the oil range were detected in all samples analyzed except samples obtained from TP-7 at a depth of 4 feet, TP-8 at depths of 4 feet and 8 feet, andMW-4 at depths of 7.5 and 12.5 feet. Samples obtained from TP-6 at 8 feet, TP-9 at 6 feet and 9 feet, MW-1 at 2.5 and 7.5 feet, MW-2 at 17.5 feet, and MW-3 at depths of 7.5 and 12.5 feet contained concentrations of oil range hydrocarbons in excess of the Method A cleanup level, with samples obtained from TP-6 at 8 feet, TP-9 at 6 feet, and MW-3 at 7.5 and 12.5 feet containing concentrations of oil-range hydrocarbons in excess of the Site-specific cleanup level of 600 mg/kg originally adopted by Hart Crowser. Only the sample obtained from TP-9 at 6 feet in depth was significantly above the Site specific cleanup level, as the other concentrations exceeding the Site specific cleanup level ranged from

610 mg/kg to 850 mg/kg. The highest petroleum concentration detected in this assessment was 3,300 mg/kg at a depth of 6 feet at TP-9.

Metals analyses of soil samples determined that the only metal encountered above the cleanup level was chromium at monitoring well MW-3 at a depth of approximately 12.5 feet. The concentration detected (540 milligrams per kilogram [mg/kg]) is only slightly above the industrial cleanup level. Elevated lead concentrations (i.e., concentrations above approximately 200 mg/kg) were detected at several localities across the site (TP-6, TP-9, MW-2, and MW-3); however, the concentrations detected were below the Method A Industrial cleanup level of 1,000 mg/kg published in MTCA. Similarly, elevated cadmium concentrations (concentrations over approximately 5.0 mg/kg) were detected at TP-6, MW-2 and MW-3, but the concentrations are below the Industrial cleanup level of 10 mg/kg. Very low-level concentrations of mercury and silver were also detected at various localities, but the concentrations were all well below the Method A (mercury) or Method B (silver) cleanup levels for these metals. Barium was detected in all soil samples, but at concentrations typically well below the MTCA Method B cleanup level of 400 mg/kg (no Method A cleanup level is published by Ecology). Selenium and arsenic were not detected at concentrations above the practical quantitation limit (PQL) for the analyses, and are therefore well below the Method A Industrial (arsenic) or Method B (selenium) cleanup levels for these metals. Please note that all arsenic concentrations were below the PQL for the analyses, which were also below the Site specific cleanup level developed by Hart Crowser, which is also the MTCA Method A (residential) cleanup level.

Hart Crowser (March 1, 1993) encountered groundwater in several wells completed at the site at a depth of approximately 8 feet beneath the ground surface (bgs). During EAI excavation activities, thin seeps were identified in test pit explorations at a depth of approximately 5 feet bgs. The seeps were most noticeable along the extreme southeastern portion of the property, possibly a result of the presence of a roof drain near this locality (test pit explorations TP-3, TP-4 and TP-5). The seeps were present mainly along interfaces of shallower sandy fill material and more clay-rich material below approximately 5 feet bgs.

The only dissolved metal encountered above the cleanup level in groundwater was arsenic at monitoring well MW-3. The concentration detected at this locality was 23 micrograms per liter (ug/l) which is above the MTCA Method A cleanup level of 5.0 ug/l. A release of arsenic is not known to have occurred. This reported concentration may be attributable to a naturally occurring condition, or alternatively an artifact of the sampling methodology in that the well had not been purged long enough, even though the parameter measurements appeared to have stabilized prior to obtaining the sample. Arsenic was detected in groundwater obtained from MW-2 at a concentration of 4.4 ug/l, and barium was present in all four groundwater samples at concentrations well below the cleanup level. All other samples analyzed did not contain concentrations of dissolved metals above the practical quantitation limit, which in each case was below the cleanup level.

Total petroleum hydrocarbons (TPH) as diesel were detected in groundwater at MW-l at a concentration of 410 ug/l, while TPH as oil were detected at MW-2 at a concentration of 770

ug/1. Both of these concentrations are below the Method A cleanup level of 1,000 ug/l. TPH as diesel and/or oil in all other samples was not detectible.

2.3 Cleanup Actions

Summarizing the Report of Independent Action, 14,100 cubic yards of lead, arsenic, and TPH impacted soils were removed and/or stabilized and removed from the Salmon Bay Steel property, with approximately 116 cubic yards removed from grid R/08 located on the property near the southeast corner of the former finishing mill warehouse building. This grid area, designated as R/08, was excavated to a depth of 1 to 1.5 feet; however, no deeper soil samples were analyzed from this location for confirmation that all lead impacted soil above the Site-specific cleanup level had been removed.

The contaminants of concern at the Site appear to be limited to metals and petroleum hydrocarbons in the diesel and oil boiling ranges; therefore, samples were submitted to the project laboratory for analysis using gas chromatography (GC) by Ecology Method WTPH-Dx (diesel extended) for total petroleum hydrocarbons in the diesel and oil boiling ranges along with analysis for metals (arsenic barium, cadmium, chromium, lead, mercury, selenium and silver) performed in accordance with EPA Method 6010B/747lA.

The Site has not obtained compliance with applicable cleanup levels for chromium or total petroleum hydrocarbons in soil. It would appear that the petroleum and chromium present in Site soils is an artifact of fill material placed upon the property in the past (prior to approximately 1973) and/or associated with a former boatyard at the southeastern corner of the property.

Groundwater at the localities evaluated does not contain concentrations of petroleum hydrocarbons, barium, cadmium, chromium, lead, mercury, selenium or silver at concentrations exceeding their respective Method A or Method B cleanup levels. While groundwater at HC-6/B-12 (a Hart Crowser monitoring well) contained a concentration of petroleum hydrocarbons of 8.7 mg/l (8,700 ug/l) in 1993, follow-on sampling and analysis of groundwater from this locality revealed that petroleum hydrocarbons concentrations had fallen below the cleanup level at this location. Although arsenic was detected in monitoring well MW-3 located along the southeastern property line beneath the warehouse building floor at a concentration of 23 ug/l which is above the cleanup level of 5.0 ug/l, it is the opinion of EAI, based upon their experience in the King County area, that this concentration represents either a “background” concentration, or is possibly an artifact of sampling methodology. Regardless, the concentration remains well below the EPA’s maximum contaminant level goal of 5.0 ug/l, and the area is located beneath the floor of the warehouse, so it was decided there was little potential for adverse impacts to health or the environment.

TPH remains in the soil, and if random drilling, sampling, and analysis were performed, approximately 50% of such test locations may possibly contain petroleum hydrocarbons in excess of the 200 mg/kg MICA Method A cleanup level, and that approximately 20% of such test locations are likely to contain petroleum hydrocarbons in excess of the 600 mg/kg Site-

specific cleanup level for the property as determined by Hart Crowser. The highest concentrations in soil are located at test pit TP-4 along the southern property line, TP-6 along the southwestern edge of the property, TP-9 located west of the building, and at MW-3, located beneath the floor of the warehouse along the southeastern property line. It was determined that these remaining contamination levels would provide adequate protection of human health and the environment, as it has been shown that groundwater is not impacted by petroleum hydrocarbons above the MTCA Method A cleanup level, and the petroleum hydrocarbons are in the somewhat "less toxic" and "less mobile" diesel and oil range.

There is chromium in excess of the Method A Industrial cleanup level, but it was decided that the potential for impacts to human health was "low," considering that the depths where elevated chromium has been identified are at least 4 feet below ground surface. The highest concentrations of chromium reported are at MW-3 beneath the floor of the warehouse, and at TP-2 west of the warehouse. The concentrations reported (less than 1,400 mg/kg) would appear to present little potential for leaching into groundwater. This statement would appear to be supported by the absence of detectible concentrations of chromium in groundwater at the site.

Statistical analyses were performed in an effort to determine the statistical relevance of the data as it may apply to additional cleanup work, and Ecology review. EAI performed preliminary statistical analysis of the soil analytical data obtained at the property (i.e., the shoreline parcel) including Hart Crowser's previous data from the proposed acquisition. The data was analyzed using Ecology's s MTCAStat version 2.1 for metals and for petroleum compounds. Upper confidence limits (UCLs) were calculated using MTCAStat for each of the following contaminants in soil: arsenic, cadmium, chromium, copper, lead, mercury, nickel, thallium, and total petroleum hydrocarbons (TPH). Statistical analyses were not performed for antimony, beryllium, selenium, silver, PCBs toluene, xylene, styrene, ethylbenzene, naphthalene, methyl naphthalene, or PAHs, as the data for these contaminants contained over 50% non-detects, thereby prohibiting statistical approaches. It should be noted that these contaminants on which the statistical analyses were not performed were not found to be present above their respective Method A Industrial/Method B cleanup levels at any location at the property. The results of the statistical analyses of the data were apparently not used in the final remedy.

Ultimately a remedy was chosen which contained, controlled, and/or isolated the contaminants rather than removing that which was in excess of cleanup standards. A letter of 'No Further Action' was issued by Ecology on January 8, 1999, as a restrictive covenant was recorded with the county.

Additional excavation occurred south of the Warehouse #4 building on January 20, 1999, and on March 18, 1999, with reasonably successful results and generated additional data; however, this additional cleanup activity did not alter the previously established remedy.

2.4 Cleanup Levels

The cleanup levels proposed for the site were presented in Hart Crowser's Site-specific Cleanup Levels for Lead arid Hydrocarbons report dated February 25, 1994, and were established for the

primary contaminants lead, diesel-range TPH, and oil-range TPH at 1,000 mg/kg to 4,200 mg/kg, 640 mg/kg, and 1,000 mg/kg, respectively. The final Site specific cleanup concentrations were established by Hart Crowser at 1,000 mg/kg for lead, 600 mg/kg for TPH regardless of the boiling range of the hydrocarbons. No cleanup level was established for polynuclear aromatic hydrocarbons (PAHs), as these were primarily found associated with TPH contamination, and it was determined by Hart Crowser that the TPH cleanup level would sufficiently address any PAH contamination. The Site specific cleanup level for arsenic was ultimately established at 20 mg/kg, which is the MTCA Method A cleanup level (for residential uses).

Environmental Associates, Inc., presented a review of several documents on January 13, 1995, provided to them by Alaska Outport Transportation, including an Updated Cleanup Action Plan (Hart Crowser, August 31, 1994), a letter from the Department of Ecology dated June 30, 1994 regarding the proposed cleanup levels, and several letters regarding sediment considerations, dredging considerations, etc., and how these considerations may apply to the potential purchase of the Site.

On June 24, 1998, Hart Crowser presented a Report of Independent Action at the Birmingham Steel Ballard Site to Fred Meyer and Roundup Company summarizing their cleanup activities. During 1996, the northern end of the larger steel mill property was characterized on a grid system for future cleanup delineation of contamination.

2.5 Restrictive Covenant

Based on industrial 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. It should noted that the covenant refers to a parcel number 1982202070, which is now north of the Site, but previously included the Site. The Site now has its own parcel number, 0467000050. A Restrictive Covenant was recorded for the Site in 1999 which imposed the following limitations:

Section 1.

1) The Property shall be used only for traditional industrial uses, as described in RCW 70.105D.020(23) and defined in and allowed under the City of Seattle's zoning regulations codified in Chapter 23 50 of the Seattle Municipal Code as of the date of this Restrictive Covenant.

2) No groundwater may be taken for domestic or any other uses from the Property.

3) A portion of the soil inside the warehouse and adjacent to the southern side of the building, on the Property, contains TPH (Total Petroleum Products) in the form of diesel and heavy oils, and chromium. The owner shall not alter, modify or remove the existing structures 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.

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 uses 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 after 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 August 25, 2010, the building and asphalt cover (remedy) at the Site continue to eliminate exposure to contaminated soils by ingestion and contact. The asphalt appears in satisfactory condition and no repair, maintenance, or contingency actions have been required. The Site is still operating as a warehouse. A photo log is available as Appendix 6.5.

Soils with TPH and chromium concentrations higher than MTCA cleanup levels are still present at the Site. However, the remedy 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 industrial 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

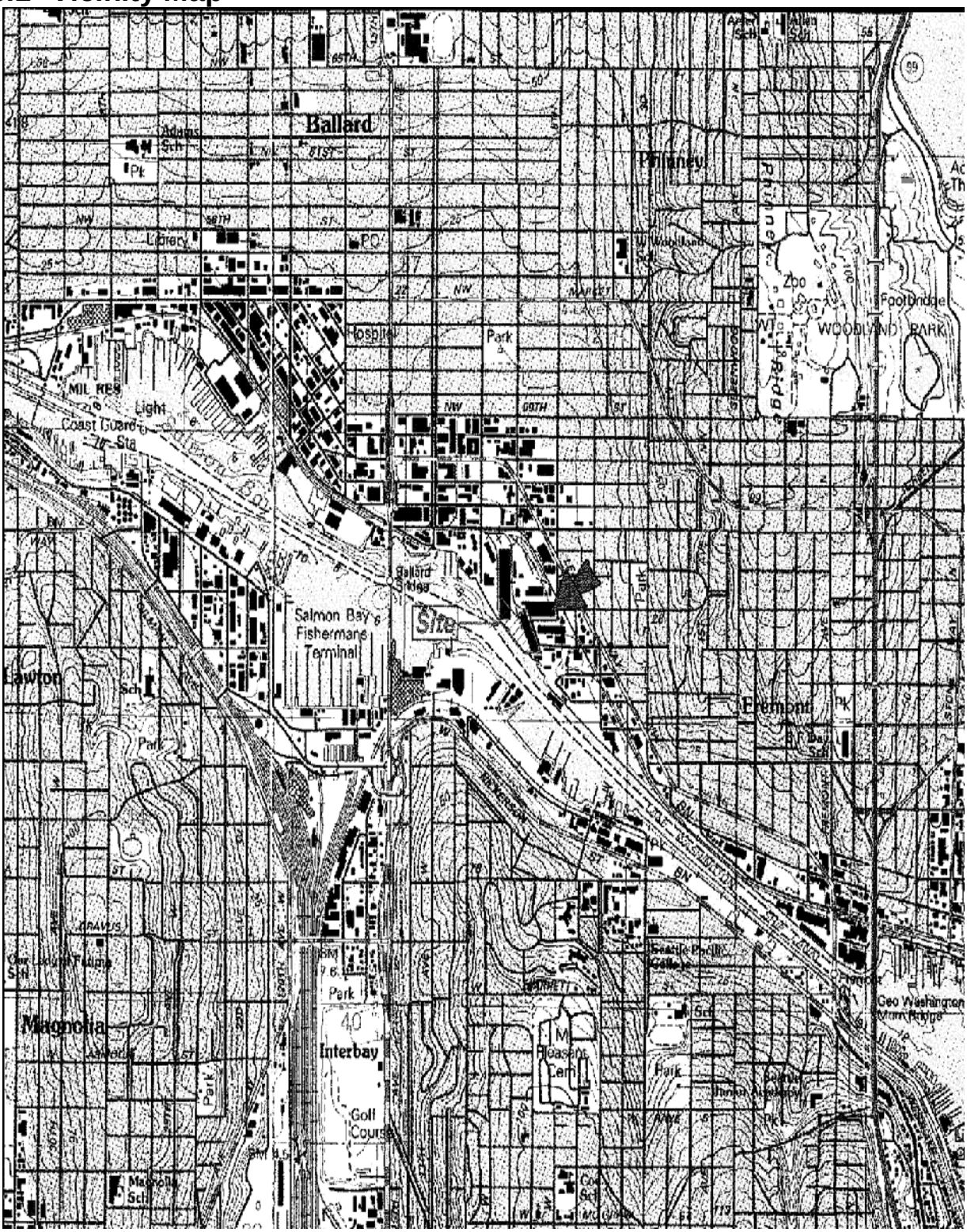
The next review for the Site will be scheduled five years from the date of this periodic review. In the event that additional cleanup actions or institutional controls are required, the next periodic review will be scheduled five years from the completion of those activities.

5.0 REFERENCES

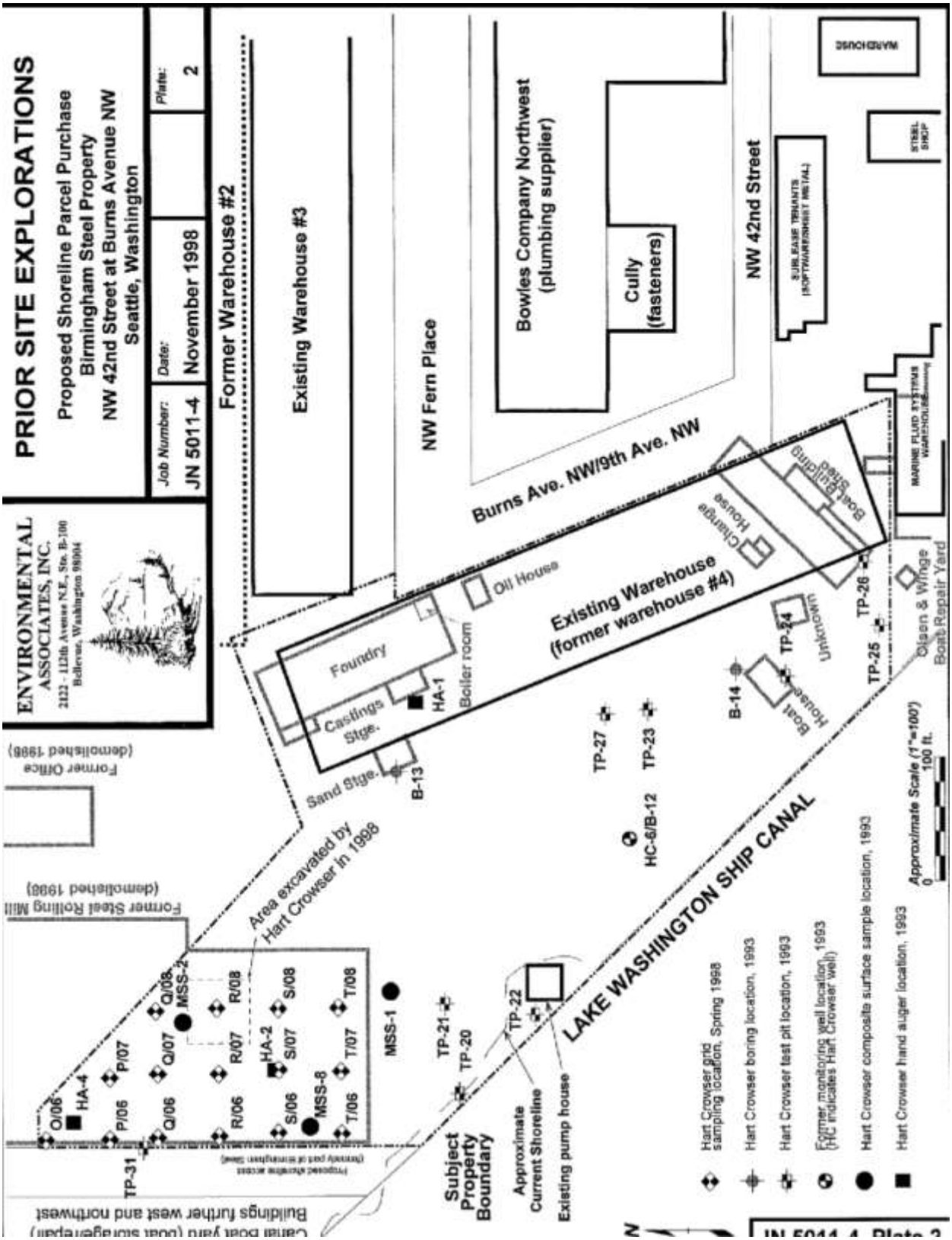
1) Draft Phase I Environmental Audit, Proposed Shoreline Parcel Purchase, Birmingham Steel Property, NW 42nd St. at Bums Ave NW, Seattle, Washington, Prepared by Environmental Associates, Inc. for J. G. Ferguson Agency, August 11, 1998;
2) Limited Substance Sampling and Testing, Proposed Shoreline Parcel Purchase, Birmingham Steel Property, Seattle, Washington, Prepared by Environmental Associates, Inc. for J. G. Ferguson Agency, August 12, 1998;
3) Proposal: Contaminated Soil Removal/Limited Confirmation Testing, Shoreline Parcel, 9th Avenue Northwest at Northwest 42nd Street, Seattle, Washington, Prepared by Environmental Associates, Inc. for J. G. Ferguson Agency, September 14, 1998;
4) Proposal: Supplemental Subsurface Sampling and Testing, Proposed Shoreline Acquisition, Birmingham Steel Site, Ballard, 9th Avenue Northwest at Northwest 42nd Street, Seattle, Washington, Prepared by Environmental Associates, Inc. for J. G. Ferguson Agency, September 23, 1998;
5) Supplemental Subsurface Sampling and Testing, Proposed Shoreline Parcel Purchase, Birmingham Steel Property, Northwest 42nd Street at Bums Avenue Northwest, Seattle, Washington, Prepared by Environmental Associates, Inc. for J. G. Ferguson Agency, December 2, 1998;
6) 1999 Restrictive Covenant;
7) Ecology, 2010 Site Visit.

6.0 APPENDICES

6.1 Vicinity Map



6.2 Site Plan


PRIOR SITE EXPLORATIONS
Proposed Shoreline Parcel Purchase
Birmingham Steel Property
NW 42nd Street at Burns Avenue NW
Seattle, Washington
Job Number: JN 5011-4
Date: November 1998
Plate: 2
ENVIRONMENTAL ASSOCIATES, INC.
2122 - 112th Avenue NE, Ste. B-100
Bellevue, Washington 98004
Former Warehouse #2
Existing Warehouse #3
NW Fern Place
Bowles Company Northwest (plumbing supplier)
Cully (fasteners)
NW 42nd Street
Burns Ave. NW/9th Ave. NW
Existing Warehouse (former warehouse #4)
Foundry
Castings Stge.
Sand Stge.
Boiler room
Oil House
Change House
Boat Building Shed
Unknown
Boat House
Olsen & Winge Boat Repair Yard
Former Office (demolished 1998)
Former Steel Rolling Mill (demolished 1998)
Area excavated by Hart Crowser in 1998
LAKE WASHINGTON SHIP CANAL
Subject Property Boundary
Approximate Current Shoreline
Existing pump house
Building further west and northwest
Approximate Scale (1"=100')
100 ft.
0
Hart Crowser grid sampling location, Spring 1998
Hart Crowser boring location, 1993
Hart Crowser test pit location, 1993
Former monitoring well location, 1993 (HC indicates Hart Crowser well)
Hart Crowser composite surface sample location, 1993
Hart Crowser hand auger location, 1993

6.3 TPH-Dx Concentration Map

not available

6.4 Environmental Covenant

199901201489

WHEN RECORDED RETURN TO
Fred Meyer Stores, Inc.
PO Box 42121
Portland, OR 97242
Attn VP Acquisition and Development

Declaration of Restrictive Covenant
(Shoreline Parcel - Fred Meyer/Birmingham Steel Property)

GRANTOR:

1. **WILMINGTON TRUST COMPANY, a Delaware corporation, not in its individual capacity, but solely as Owner Trustee (under the FMS Trust 1997-1, a Delaware business trust)**

GRANTEE:

1. **State of Washington Department of Ecology**

LEGAL DESCRIPTION:

9901201489

1. **Abbreviated Legal Description: Parcel B of City of Seattle Short Subdivision No. 9205813; Portion of Blocks 1 and 2, Ballard Tidelands, and of Block 1, Seattle Tidelands, and of vacated streets adjoining, situated in King County, Washington**

2. **Additional Legal Description is set forth in the body of the document.**

Asssessor's Property Tax Parcel Account Number: a part of 198220-2070-07

RESTRICTIVE COVENANT

SHORELINE PARCEL - FRED MEYER/BIRMINGHAM STEEL PROPERTY

This Declaration of Restrictive Covenant is made pursuant to RCW 70 105D 030(1)(f) and (g) and WAC 173-340-440 by **WILMINGTON TRUST COMPANY, a Delaware corporation, not in its individual capacity, but solely as Owner Trustee (under the FMS Trust 1997-1, a Delaware business trust)**, its successors and assigns (hereafter, "Owner"), in favor of 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:

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1 Draft Phase I Environmental Audit, Proposed Shoreline Parcel Purchase, Birmingham Steel Property, NW 42nd St at Burns Ave NW, Seattle, Washington Prepared by Environmental Associates, Inc for J G Ferguson Agency August 11, 1998

2 Limited Substance Sampling and Testing Proposed Shoreline Parcel Purchase Birmingham Steel Property, Seattle, Washington Prepared by Environmental Associates, Inc for J G Ferguson Agency August 12, 1998

3 Proposal Contaminated Soil Removal/Limited Confirmation Testing, Shoreline Parcel 9th Avenue Northwest at Northwest 42nd Street, Seattle, Washington Prepared by Environmental Associates, Inc For J.G Ferguson Agency September 14, 1998

4 Proposal Supplemental Subsurface Sampling and Testing Proposed Shoreline Acquisition, Birmingham Steel Site-Ballard, 9th Avenue Northwest at Northwest 42nd

Street, Seattle, Washington Prepared by Environmental Associates, Inc for J G Ferguson Agency, September 23, 1998

5 Supplemental Subsurface Sampling and Testing Proposed Shoreline Parcel Purchase, Birmingham Steel Property, Northwest 42nd Street at Burns Avenue Northwest Seattle, Washington Prepared by Environmental Associates, Inc. for J G Ferguson Agency, December 2, 1998

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

This Restrictive Covenant is required because the Remedial Action resulted in residual concentrations of diesel - and oil-range petroleum hydrocarbons and chromium which exceed the Model Toxics Control Act Method A Industrial cleanup level for soils established under WAC 173-340-745

The undersigned, WILMINGTON TRUST COMPANY, a Delaware corporation, not in its individual capacity, but solely as Owner Trustee (under the FMS Trust 1997-1, a Delaware business trust), is the fee owner of real property (hereafter "Property") in the County of King Stat of Washington, that is subject to this Restrictive Covenant The Property is legally described as follows

That portion of Blocks 1 and 2, Ballard Tidelands and of Block 1, Seattle Tidelands and of vacated streets adjoining, as described as follows:

Beginning at the Southeast Corner of Lot 2, Block 1, Seattle Tidelands:

Thence North 88°54'14" West, 223.42 feet to the Southwest corner of said Lot 2;

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Thence North 42°20'45" West, 540.17 feet; Thence North 29°52'39" East, 41.87 feet; Thence North 32°06'43" West 68.19 feet; Thence North 01°13'47" East, 209.75 feet; Thence South 88°45'48" East, 29.20 feet; Thence South 45°18'18" East, 322.57 feet; Thence North 69°22'41" East, 160.42 feet; Thence South 20°41'22" East, 132.38 feet; Thence North 88°43'49" West, 12.98 feet to the East line of Block 1, Ballard Tidelands; Thence South 20°40'09" East, 441.12 feet to the point of beginning

SITUATED IN KING COUNTY WASHINGTON.

WILMINGTON TRUST COMPANY, a Delaware corporation, not in its individual capacity, but solely as Owner Trustee (under the FMS Trust 1997-1, a Delaware business trust), 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")

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Section 1

1 The Property shall be used only for traditional industrial uses, as described in RCW 70 105D 020(23) and defined in and allowed under the City of Seattle's zoning regulations codified in Chapter 23 50 of the Seattle Municipal Code as of the date of this Restrictive Covenant.

2 No groundwater may be taken for domestic or any other uses from the Property

3 A portion of the soil inside the warehouse and adjacent to the southern side of the building, on the Property, contains TPH (Total Petroleum Products) in the form of diesel and heavy oils, and chromium. The owner shall not alter, modify or remove the existing structures 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.

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 uses 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

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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

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Property or be of any further force or effect However, such an instrument may recorded only

if Ecology, after public notice and opportunity for comment, concurs

OWNER WILMINGTON TRUST COMPANY, **a Delaware corporation,** not in its individual capacity, but solely as Owner Trustee (under the **FMS Trust 1997-1, a Delaware business trust)**

By FRED MEYER, INC., a Delaware corporation, its attorney-in-fact pursuant to a recorded Limited Power of Attorney

By: _____
Name: James C Aalberg
Title: Vice President and Treasurer

ACKNOWLEDGMENT

STATE OF OREGON)
) ss.
County of Multnomah)

On this 15th day of January, 1999, before me, the undersigned Notary Public of the State of Oregon, duly commissioned and sworn, personally appeared JAMES C AALBERG to me personally known to me (or proved to me on the basis of satisfactory evidence) to be the person who executed the written instrument as the VICE PRESIDENT AND TREASURER of **FRED MEYER, INC.**, a Delaware corporation, of and on behalf of such corporation, as attorney-in-fact for and on behalf of **WILMINGTON TRUST COMPANY, a Delaware corporation**, on behalf of such corporation, not in its individual capacity, but solely as Owner Trustee under the **FMS Trust 1997-1, Delaware business trust**, on behalf of such business trust, and did acknowledge to me that such corporation executed the same as attorney-in-fact for and on behalf of such corporation and business trust by its authority duly given

_____
Notary Public for the State of Oregon
Residing at Portland Oregon

OFFICIAL SEAL
GENEVIEVE S ANDERSON
NOTARY PUBLIC OREGON
COMMISSION NO 059709
MY COMMISSION EXPIRES JANUARY 12, 2001

[C:\DATA\WP\PADS\UN\FERGUSON\COVENANT.WPD]

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6.5 Photo log

Photo 1: Ferguson Terminal Warehouse - from the south

Photo 2: Interior of the warehouse – southeast end

Photo 3: Warehouse – northwest end (toward Fred Meyer store)

Photo 4: Close-up of the address of record at the northwest end of the warehouse