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APPENDIX C: POTENTIAL SOURCES OF CHEMICALS

This appendix presents information concerning potential sources of chemicals and chemical loadings for each property that drains to Hylebos Waterway. Both historical and current potential sources are discussed. The information has been assembled primarily from EPA compilations of Potentially Responsible Party (PRP) information, Ecology Milestone 1 and 2 Source Control Reports, and Ecology site inspection reports. These reports are discussed and cited below. References are found in Section 9.0.

For each property, a table presents names of owners (shown in bold) and occupants, types of operations, and the period of years over which the owner or occupant was responsible for the property. Following the table, information is presented on classes of chemicals associated with the property, potential pathways to Hylebos Waterway, a summary of information including documented discharges and loadings, if available, and the Milestone 1 status, if available. The Ecology Milestone 1 reports were published in May 1992 (Mouth of Hylebos) and May 1993 (Head of Hylebos); they contain lists that identify all potential ongoing sources of problem chemicals to Hylebos Waterway (List 1), all probable sources (List 2), and all confirmed sources (List 3). This listing may apply to only one facility on the property. Properties that are not on a Milestone list were determined by Ecology to not be a potential, probable, or confirmed source of chemicals.

The number that follows each address indicates the property number found on the property ownership map prepared by PRC (1993) and included as Figure 5-2 in the main text and Figure C-1 in this appendix.

A number of inaccuracies in EPA's PRP report (PRC 1993) and, to a lesser extent, Ecology site inspection reports were identified during the preparation of this report. These documents were primary sources of information for this report. When inaccuracies were identified, the text of this report was prepared using the correct information and the appropriate references were cited. However, the potential exists for inaccuracies to remain in this report.

The information contained in this report is merely presented as a summary of existing information pertaining to Hylebos Waterway. The accuracy of the data or its evaluation,as summarized from the original documents, could be confirmed for only some of the documents. The use of the information contained herein does not necessarily represent the opinion of the HCC.

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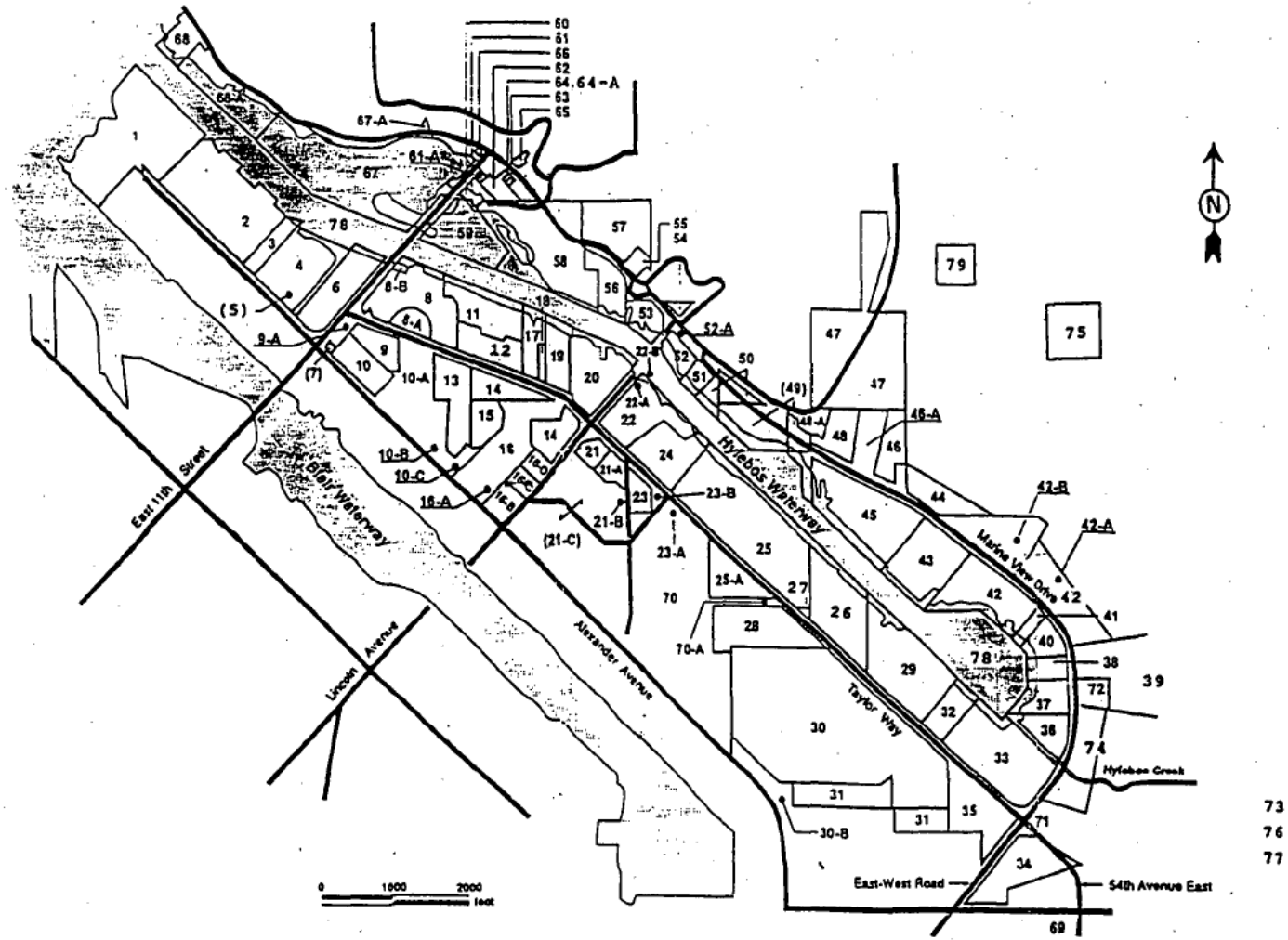

Figure C-1. Current (as of 9/30/93) Hylebos Waterway facility locations (from PRC Environmental Management, Inc.).

401 Alexander Ave. (#1)

Owner/Occupant	Type of Operation	Years
Port of Tacoma	owner	1960 - Present
AK-WA Shipbuilding, Inc.	ship repair and conversions	1986 - Present
Joseph Simon & Sons, Inc.	scrap metal work	1975 - 1980
Tacoma Boatbuilding	ship repair	1969(?) - 1987(?)
Zidell Dismantling Corp.	ship dismantling and barge building	1960 - 1984
U. S. Navy	ship building	1942 - 1960
Todd Shipyard (contractor for U. S. Navy)	ship building	1917 - 1942

Classes of Chemicals Associated with the Property: metals, organic compounds (PCBs, solvents, oil and grease, acids/bases)

Potential Pathways to Hylebos Waterway: stormwater runoff via outfalls

Milestone 1 Status (AK-WA): List 3

Summary of Available Information Including Documented Discharges and Loadings:
Port of Tacoma: The Port of Tacoma (the Port) owns this 74-acre property which has been leased to over 200 businesses in the past. Stormwater from approximately one-half of the property drains to the Hylebos, while the other half drains to either the Blair Waterway or Commencement Bay. Additional Port of Tacoma tenants are listed following summary information for this property. Sampling of a Tacoma City Light substation catch basin in 1991 by Ecology revealed sediment concentrations of arsenic, copper, lead, and zinc at concentrations above the Commencement Bay Sediment Quality Objectives (Ecology 1992c). PCBs were also present at low concentrations. In December of 1992, Ecology requested that the Port clean up sandblast grit and catch basin sediments on the site (Mercuri 1994a). In response, the following voluntary cleanup actions were performed on the part of the site that drains to Hylebos Waterway, excluding the AK-WA lease area: sandblast grit was analyzed and removed, storm drains were mapped and catch basin sediments were analyzed, catch basins were cleaned, catch basin sampling was done, and abandoned waste barrels were characterized and removed. Following these actions, downstream catch basin sampling revealed that sediments in catch

basins continued to have average concentrations of copper and zinc above Commencement Bay SQOs (Harding Lawson, 1993). In response, the Port swept the yard and cleaned out the entire storm drainage system. Re-testing is planned for the fall of 1994.

AK-WA Shipbuilding, Inc.: Activities associated with the ship repair and conversion operations at this site include welding, cutting, machining, sandblasting, hydroblasting, painting, carpentry, pipefitting, and electrical wiring (Ecology 1991a). Prior to 1989, there was a spill of 3,000 gallons of diesel into Hylebos Waterway (PRC 1993). In 1991, sandblast grit was sampled and found to contain high levels of copper, lead, zinc, and mercury; however, levels of these chemicals were low in discharged storm water. AK-WA presently has an NPDES permit that sets limits for oil and grease, total suspended solids, pH, copper, lead, mercury, nickel, and zinc. An Ecology review of AK-WA Discharge Monitoring Reports (DMRs) (Stephens 1994a) shows that the stormwater discharge has exceeded each of the limitations. AK-WA plans to reconfigure the surface water drainage on the site, rerouting all the outfalls through a treatment system to a single point of discharge on the Commencement Bay side of the site. The treatment system is supposed to reduce metals in the effluent to below permit limitations (Schrieve 1994a). Although there is an existing recycling system for the hydroblasting water, in January of 1994 2,430 gallons of hydroblasting water containing excessive levels of copper, zinc, and total suspended solids were inadvertently discharged to the waterway (Becker 1994)..

Joseph Simon and Sons: There are no known sources or releases of chemicals from this facility (PRC 1993).

Tacoma Boatbuilding: This company leased 10 buildings on this property at different times; their main facility was located on the northern end of the property, which drains to Commencement Bay. Problem chemicals were released from one building (PRC 1993), and sandblast grit from their operations may be present on parts of the old site (Mercuri 1994b).

Zidell Dismantling Corporation: Zidell recycled scrap metal and petroleum products from its ship salvaging operation, generated asbestos waste, and may have disposed of transformers containing PCBs on the property (PRC 1993). Ship dismantling wastewater was discharged to the waterway under an NPDES permit, and waste oil was directly discharged to the waterway via several oil spills between 1969 and 1975 (PRC 1993). Surface runoff was also affected by shoreline ballast which had been stabilized with waste oil (PRC 1993).

Todd Shipyard/U. S. Navy: This site was used for heavy shipbuilding and ship repair activities by the US Navy and its contractor, Todd Shipyard. During the Navy's ownership, well over sixty Navy ships were constructed and a minimum of twenty five Navy ships were serviced at the site (Tacoma News Tribune 1955). Materials used at shipyards include paints, hull-cleaning materials, greases and oils, solvents, detergents, metals, plastics, and fuels. Some common types of chemicals generated by shipyards are zinc, copper, lead, chromium, suspended solids, settleable solids, oils and greases, fuels, and excessive acids or bases (EPA 1979).

Additional Port of Tacoma Tenants:

Name	Date(s) of Tenancy
All Alaskan Seafoods	12/78- 4/79, 2/85-11/86, 10/89-12/89
Plemco Ltd.	1/77-3/83
Coast Engine and Equipment Repair	6/84-10/84
American President Lines Ltd.	9/77-4/81
W. D. Whinery Inc.	6/76-10/76
Marine Iron Works, Inc.	11/72-8/77
I.W. Johnson Machine Works	4/69-4/75
Gustafson Engineering and Machine Co.	4/75-9/86
A. P. L. (used to be Western Stevedore)	12/70-9/77
Eagle Marine Services (Alongshore Hall)	12/70-?/83
HY-Design	?/69-4/76
American Marine	4/73-11/73
S & W Sheet Metal	5/63-2/73
Phoenix Processors Ltd. Partnership	3/92-5/92
Phoenix Processors	9/91-1/92
General/Rainier	8/92-12/92
Bellingham Marine	3/92-11/92
J. A. Jones Construction Co.	11/81-12/81, 4/82-9/82
Marine Industries N.W.	2/76-9/82

605 Alexander Ave. (#2)

Owner/Occupant	Type of Operation	Years
Occidental Chemical Corporation	chlor-alkali and solvents production plant	1929 - Present

Classes of Chemicals Associated with the Property: chlor-alkalis, chlorinated organics, acids/bases, metals (lead)

Potential Pathways to Hylebos Waterway: wastewater outfalls, groundwater seepage, bank erosion

Milestone 1 Status: List 3

Summary of Available Information Including Documented Discharges and Loadings: This property has been occupied by Occidental Chemical Corporation (formerly Hooker Chemical) since 1929. There are four plants at the facility; they produce chlorine and caustic soda, muriatic acid, calcium chloride, ammonia, and sodium hypochlorite. In addition to these chemicals, past production has included hydrogenated fish oils, aluminum chloride, trichloroethylene and perchloroethylene, and sodium aluminate (Ecology 1993a). Before 1988, OxyChem discharged wastewater from electrolytic chlor-alkali cells, which released lead and chlorinated organic compounds to Hylebos through an NPDES outfall (PRC 1993). From the mid-1950's to the mid-1970's, OxyChem's PCE plant operations released organics to groundwater. Plant shift supervisor records before 1981 show that unknown quantities of chlorinated organics were released to site soils, and Occidental reported releases to the ground of muriatic acid in 1981 and caustic soda in 1982 and 1984 (Ecology 1993a). A barge near OxyChem's dock also periodically decanted solvent plant wastes to the waterway (PRC 1993). In July 1981, Ecology detected high levels of several metals and organics near the wastewater outfall (PRC 1993). Releases from various surface impoundments, landfills, and waste piles have affected groundwater (Ecology 1993a). In 1984, Ecology detected organics in groundwater seeps to the waterway. Hexachlorobutadiene was detected in site soil samples in 1988, as well as in Hylebos Waterway bottom sediments and suspended solids (in sediment traps) near the property in the early 1990s (Ecology 1993a). Groundwater sampling in 1988 showed contamination by organics at levels that exceeded EPA's human health water quality standards. There is presently a layer of anthropogenic material that rims the upper edge of the bank part of on the property.

Occidental removed some soils containing chlorinated organics in 1981, as well as soils containing elevated lead concentrations from a waste pile in the early 1980s. In 1988, EPA approved a Part B RCRA permit for treatment, storage, and handling of hazardous wastes. A

draft RCRA Corrective Action Plan to treat contaminated groundwater, a requirement of the original RCRA permit, was approved in 1992. The corrective action consists of pumping and treating on-site and off-site groundwater. The NPDES permit renewed in 1991 was expanded to address sediment monitoring following CERCLA sediment remediation, stormwater and effluent biomonitoring, and monitoring of the new waste stream resulting from the pump and treat operation. The NPDES permit conditions have improved the wastewater discharge quality (Ecology 1993a, PRC 1993).

709 Alexander Ave. (#3)

Owner/Occupant	Type of Operation	Years
PRI Northwest, Inc.	petroleum product tank farm	**1981 - Present** 1978 - 1984
Fletcher Oil Co./F.O. Fletcher, Inc.	petroleum storage tank farm, tetraethyl lead plant	1930 - 1981
(b) (6)	lack of activity	UK - 1930
Tesoro Petroleum		1970 - 1978
All Alaska Seafood	seafood processor	UK
Puget Sound Tug & Barge		UK
Washington Marine Services		UK
United Independent Oil	petroleum product tank farm, topping plant	1973 - 1980(?)
Faustug Marine		UK

Classes of Chemicals Associated with the Property: organics (chlorinated solvents, petroleum products), metals

Potential Pathways to Hylebos Waterway: shoreline sediments, seeps, groundwater

Milestone 1 Status (PRI Northwest)**:** List 3

Summary of Available Information Including Documented Discharges and Loadings: This property, which is presently not in use, was the location of a bulk petroleum fuel storage and distribution center from the 1930s to the 1980s. Other historical operations included a tetraethyl lead plant which operated in the late 1970s and early 1980s, and a topping plant for crude oil distillation, also functional during the 1970s and 1980s.

Currently there are five above-ground storage tanks on the property, which is enclosed by a chain link fence (Ecology 1993b).

From 1979 to 1983, the following spills were documented by Ecology (1993b):

- 1979: gasoline spill, 69 gallons
- 1981: Safety Kleen (an aliphatic solvent) spill, quantity unspecified
- 1981: product spills from leaky valves, quantity unspecified

- 1983: diesel fuel spill, 300 gallons (seeped into ground)

In 1987, the City of Tacoma discovered petroleum product floating on the groundwater table along Alexander Avenue in front of the property (PRC 1993). In 1989, Ecology and Environment, under contract to EPA, performed a site investigation and file review. Samples taken at this time revealed concentrations of PCBs in oil-stained soil at 24.3 mg/kg, and concentrations of lead in soil from near the former gasoline leading facility at 14 mg/kg (Ecology 1993b). Groundwater sampling showed elevated levels of arsenic, chromium, copper, lead, and zinc (Ecology 1993b). Sampling by Ecology in 1992 showed concentrations of lead at 37,400 mg/kg in fill material on the bank of Hylebos Waterway (Ecology 1993b). A groundwater seep also sampled at this time showed elevated concentrations of TCE, PCE, copper, and zinc. A Preliminary Site Investigation by Hart Crowser (1994) and a Urban Bay Action Team Inspection Report (Kourehdar et al. 1994) reported the presence of sludge material mixed with graphite anodes in the shoreline fill material on the property. Samples of this material taken by Hart Crowser contained PCE, TCE, hexachlorobutadiene, elevated lead levels, PAHs, and diesel-range and heavier petroleum hydrocarbons (Hart Crowser 1994). This report also confirmed groundwater levels exceeding MTCA Method B cleanup standards of PCE, trichloroethene, 1,1-dichloroethene, vinyl chloride, arsenic, copper, nickel, and zinc (Hart Crowser 1994).

721-1/2 Alexander Ave. (#4)

Owner/Occupant	Type of Operation	Years
CSX Intermodal, formerly CMX Trucking	truck trailer parking/dispatch	UK - Present
Linden Trucking	trucking	UK - UK
Port of Tacoma	owner	UK - Present
McChord Air Force Base	petroleum product tank farm	1951 - 1965
General Petroleum		UK - 1951
Lilyblad Petroleum, Inc.	petroleum products storage tanks	1979 - 1983

Classes of Chemicals Associated with the Property: metals, organics

Potential Pathways to Hylebos Waterway: possible groundwater seepage, stormwater outfall

Milestone 1 Status (CMX Trucking)**:** List 3

Summary of Available Information Including Documented Discharges and Loadings: This property was used as a tank farm until 1983, when the Port removed the tanks and paved the site (Mercuri and Coleman 1992b). There was no cleanup prior to paving (Mercuri and Coleman 1992b). In 1992, sampling revealed that metals had been released from the stormwater outfall on the north corner of the property. (Mercuri and Coleman 1992b).

901 Alexander Ave. (#5)

Owner/Occupant	Type of Operation	Years
Port of Tacoma	owner	UK - Present
McMillan Piper	dry goods warehouse, fuel oil storage tanks, and ship building	1958 - Present
Tacoma Boatbuilding Co., Inc.	boat building	1984 - 1986
F.O. Fletcher Oil, Inc.	office space only	1972 - 1980

Classes of Chemicals Associated with the Property: none identified

Potential Pathways to Hylebos Waterway: none identified

Milestone 1 Status (McMillan Piper)**:** Removed from List 1.

Summary of Available Information Including Documented Discharges and Loadings: Fuel was stored on this property; however no releases have been documented. No hazardous materials were found at McMillan Piper during a 1990 Ecology inspection (PRC 1993).

3529-33 East 11th St. and 1100 Alexander Ave. (#6)

Owner/Occupant	Type of Operation	Years
U. S. Navy and Marine Corp. Reserve	reserve center, petroleum storage tanks, docking facility	1948 - Present
Port of Tacoma	owner	1959 - Present
U. S. Government	lack of activity	1901 - 1959

Classes of Chemicals Associated with the Property: metals, organics

Potential Pathways to Hylebos Waterway: groundwater, stormwater outfalls (?)

Milestone 1 Status (U.S. Navy and Marine Corps Reserve)**:** Removed from List 1.

Summary of Available Information Including Documented Discharges and Loadings: At the docking facility, the Navy generated waste batteries as well as approximately 2,000 gallons per year of waste oil, solvents, and paints from 1982 to 1988 (PRC 1993); this waste was either shipped off site or discharged to the Tacoma sanitary sewer. A 1990 UBAT inspection (Gooding and Herold, 1990) reported that a bilge water oil-water separator on the dock presented a potential leakage problem, and that one storm drain visible from the dock had antifreeze in it.

Releases of tetraethyl lead and petroleum products have occurred from the storage tanks, and the soil near the storage tanks may contain lead, PCBs, halogenated VOAs, and ethylbenzene (PRC 1993). The exact location of the storage tanks is not apparent from the available documents.

There have been releases of paint and petroleum products, cleaning solvents, de-greasers, detergents, and acid cleaning wastes from the Marine Corps Reserve Center (PRC 1993).

3302 East 11th St. (11th St. & Alexander Ave.) (#7)

Owner/Occupant	Type of Operation	Years
(b) (6)	owner	1959 - Present
Nordberg Auto Body	auto body shop	1982 - 1984
Vance Lift Truck Co.	forklift repair and sales	1967 - Present
Nordlund Boat Company	wooden boat building	1959 - 1967
(b) (6)	owner	UK

Classes of Chemicals Associated with the Property: metals, organics

Potential Pathways to Hylebos Waterway: Most surface runoff drains to Blair Waterway, wash pad water drains to sanitary sewer (Mercuri et al. 1994).

Milestone 1 Status (Vance Lift Truck)**:** Removed from List 2.

Summary of Available Information Including Documented Discharges and Loadings: Vance Lift Truck uses or generates xylenes, paints, and waste oils in its operation (PRC 1993), and has had repeated small spills (Gooding and Neumiller 1990). Although the PRP Search Report says that the "Nordberg Auto Body Shop activities released PAHs, paint thinners, primers, lacquers, enamels, epoxies, alkyds, heavy metals, and petroleum to surface runoff to Hylebos Waterway" (PRC 1993), Department of Ecology UBAT (Mercuri et al. 1994) and City of Tacoma records (PRC 1993) indicate that the surface runoff drains to Blair Waterway except possibly in the case of overflow from a large rainstorm event (Mercuri 1994j).

1201 Taylor Way (#8)

Owner/Occupant	Type of Operation	Years
City of Tacoma Cogeneration Plant/Public Utilities	steam electric cogeneration plant, substations (nearby)	1923 - Present
Busy Bee Industries	seafood processor	1974 - 1985
Pacific Western Construction		UK - 1975
Hart Construction Company		1951 - UK
Ship Lumber Mill Company		UK - 1930

Classes of Chemicals Associated with the Property: organics (oil, PAHs, PCBs), metals (arsenic, mercury)

Potential Pathways to Hylebos Waterway: storm water runoff that passes through swale

Milestone 1 Status (City of Tacoma): Removed from List 2

Summary of Available Information Including Documented Discharges and Loadings: According to the PRP Search Report, the old steam plant operations generated wastes including oil, PAHs, and PCBs before the 1980s. Petroleum product was released to the soil. Belt Line railroad track gravel used for ballast contains petroleum hydrocarbons. PCBs were not detected in soil samples in 1985. A UBAT inspection report states that in 1991, testing by Ecology showed that soil piles on the property had levels of arsenic and mercury exceeding Commencement Bay Cleanup Objectives; however the swale which receives the runoff contained no problem chemicals exceeding the standards (Gooding and White 1991).

1123 Taylor Way (#8-A)

Owner/Occupant	Type of Operation	Years
Port of Tacoma	owner	UK - Present
Vacant railroad building; former containerized freight yard		UK
Coastal Trailer Repair Services	truck trailer repair	3/82 - UK
Everson Stairs		UK

Classes of Chemicals Associated with the Property: organics

Potential Pathways to Hylebos Waterway: soil percolation, surface runoff

Milestone 1 Status: Removed from List 1

Summary of Available Information Including Documented Discharges and Loadings: A UBAT inspection report prepared in 1990 (Herold 1990a) listed suspected contaminates as lacquer thinner, lift truck oil, and waste oil at Coastal Trailer Repair Services. The waste oil was stored in a tank on site.

East 11th St. (just before bridge) (#8-B)

Owner/Occupant	Type of Operation	Years
Vacant lot		UK

Classes of Chemicals Associated with the Property: none identified

Potential Pathways to Hylebos Waterway: none identified

Milestone 1 Status: not listed

Summary of Available Information Including Documented Discharges and Loadings: This is a vacant lot.

1202 Taylor Way (#9)

Owner/Occupant	Type of Operation	Years
PQ Corporation (aka Philadelphia Quartz)	"water glass" manufacturing	1941 - Present
Lewis & Clark Railroad (aka PTS & Northern Rail Service)		1981 - 1991

Classes of Chemicals Associated with the Property: metals, inorganic acids/bases

Potential Pathways to Hylebos Waterway: process water to wetland, then storm drain to Waterway

Milestone 1 Status: Removed from List 1

Summary of Available Information Including Documented Discharges and Loadings: According to a 1990 UBAT inspection report (Herold and Gooding 1990a), Philadelphia Quartz manufactures "water glass" by reacting high silica content sand with soda ash in the presence of steam and high pressure. High pH process water is released to wetlands that drain to a city storm drain and subsequently to Hylebos Waterway. When tested, pH values of 10 were observed in the wetland, but water in the storm drain was neutral. Solvent and fuel spills appeared to have occurred in the railroad company lease area (Herold and Gooding 1990a).

1112-1114 Taylor Way (#9-A)

Owner/Occupant	Type of Operation	Years
PQ Corporation	railroad emergency service lot	**1941 - Present** 1941 - 1955
Railroad Emergency Services	railroad emergency service lot	1979 - Present
Pershing Haynes	subleases to RR Emer. Srvc.	1979 - Present
Nilsen Fibres		1969 - 1979
Unknown Co.		1965 - 1969
St. John's Trucking (aka Wilding Inland and Arrow Trucking)		1956 - 1965

Classes of Chemicals Associated with the Property: none identified

Potential Pathways to Hylebos Waterway: none identified

Milestone 1 Status: not listed

Summary of Available Information Including Documented Discharges and Loadings: There are no known sources at this facility (PRC 1993).

1221-1225 Alexander Ave. (#10)

Owner/Occupant	Type of Operation	Years
Propeller Club	clubhouse	1988 - Present
Tacoma Seaman's Center	offices	1979 - Present
Port of Tacoma	owner	1977 - Present
U.S. Government	no activity	UK
Puget Sound Log Trader		1973

Classes of Chemicals Associated with the Property: none identified

Potential Pathways to Hylebos Waterway: none identified

Milestone 1 Status: not listed

Summary of Available Information Including Documented Discharges and Loadings: There are no known sources at this facility (PRC 1993).

1229 Alexander Ave. (#10-A)

Owner/Occupant	Type of Operation	Years
Tacoma Public Utilities	vacant; proposed steam plant site	UK - Present

Classes of Chemicals Associated with the Property: metals, organics

Potential Pathways to Hylebos Waterway: groundwater drains to Blair Waterway; pathway for surface runoff is unknown

Milestone 1 Status: not listed

Summary of Available Information Including Documented Discharges and Loadings: In 1991, low levels of metals and PAHs were found in the soil and groundwater (PRC 1993).

1629 Alexander Ave. (#10-B)

Owner/Occupant	Type of Operation	Years
Chemical Processors, Inc./Burlington Environmental	RCRA-permitted hazardous waste management (treatment, storage, and disposal) facility	1982 - Present
Resource Recovery Corp.		UK - Present
Northwest Container Services	warehouse	UK - Present
Freeway Containers	storage	UK - Present

Classes of Chemicals Associated with the Property: organics, metals

Potential Pathways to Hylebos Waterway: Possible historical drainage.. Property now drains to Blair Waterway (Ecology 1993d).

Milestone 1 Status: not listed

Summary of Available Information Including Documented Discharges and Loadings: Present drainage appears to go to Blair Waterway. Ecology has determined that this property is not a confirmed source of problem chemicals to Hylebos Waterway.

1701 Alexander Ave. (#10-C)

Owner/Occupant	Type of Operation	Years
Chemical Processors, Inc./Burlington Environmental	RCRA-permitted hazardous waste management (treatment, storage, and disposal) facility	1982 - Present
Solidus Corporation		1981 - Present
(b) (6)	owner	**1980 - 1982** 1976 - 1980
(b) (6)	owner	**1980 - 1982** 1976 - 1980
(b) (6)	historical owner	1980 - 1982
(b) (6)	owner	1969 - 1981

Classes of Chemicals Associated with the Property: organics, metals, asbestos

Potential Pathways to Hylebos Waterway: none confirmed (Ecology 1993d)

Milestone 1 Status: not listed

Summary of Available Information Including Documented Discharges and Loadings: PAHs are present in the soil, and metals and organics are present in the shallow groundwater (PRC 1993). Between 1972 and 1975, Occidental Chemical Corp. disposed of approximately 13,000 tons of lime sludge containing chlorinated ethenes, metals, and asbestos in a waste oil disposal pond on the property (PRC 1993). Shredded automobile interiors and construction debris were also disposed of in the pond (PRC 1993). A 1990 RCRA Facility Assessment (SAIC 1990) concluded that surface water runoff from the northwest corner of the property drains to Hylebos Waterway through storm sewers north to Taylor Way, then west to ditches along East 11th Street. In 1992, an addendum made to the Milestone 1 report states that most of this property's runoff flows to a marsh adjacent to AOL Express and then to drain #106. This drain, however, is now blocked, and runoff from the AOL property is directed to the Lincoln Avenue Ditch, which drains to Blair Waterway. The conclusion drawn in this addendum was that Chemical Processors is not considered a confirmed source to the Mouth of Hylebos Problem Area (Ecology 1993d).

1501 Taylor Way (#11/12)

Owner/Occupant	Type of Operation	Years
Taylor Way Properties(Parcel B)	real estate management and development	1986 - Present
McMillan Piper (Parcel A)	realty development	1992 - Present
Chemical Processors, Inc./Burlington Environmental	hazardous waste management	1988 - 1990
Brazier Forest Industries, Inc. (vacant)	log and forest products sales	1985 - 1986
(b) (6)	owner	1974 - 1985
Busy Bee Industries	seafood processor	1970 - 1974
Hylebos Boat Haven		1965 - 1970
Engineered Forest Products		1968 - 1970
Sierra Sandblasting	sandblasting	1968 - 1970
Keller's Sandblasting & Gunite Construction	sandblasting	1966 - 1968
Allied Building Components		1962 - 1965
Architectural Woods	lumber sales	1958 - 1965
Chemical Process Company		1956 - 1960
Puget Sound National Bank	bank	1954 - 1956
Tacoma Powdered Metals	powdered metal manufacturing	1946 - 1958
Centennial Flour Mills		1944
Bagley & Sewell		1943
ITT Rayonier, Inc.	pulp and paper production	1936 - 1942
Shaffer Pulp Co.	pulp and paper production	1928 - 1935
Shaffer Box Co.	pulp and paper production	1921 - 1928

Classes of Chemicals Associated with the Property: metals, organics (PAHs, PCBs)

Potential Pathways to Hylebos Waterway: surface water via drainage ditch and swale, groundwater seeps, direct soil contact with waterway along bank

Milestone 1 Status (Brazier Forest Products property): List 3

Summary of Available Information Including Documented Discharges and Loadings: According to the PRP Search Report, past operations at this site have included pulp and paper production; powdered metal manufacturing; waste oil, solvent, and paint storage; copper slag grit blasting; glue and adhesive manufacturing, and wood products manufacturing.

The property is divided into two parcels. A is the upland parcel and B is the waterfront parcel. In 1985, a white metal-containing fluid was observed overflowing from vats into an on-site pond and from there to the ditch that drains to Hylebos Waterway (PRC 1993). A waste solvent spill and unidentified slag were also observed (PRC 1993). Ecology detected metals in surface water runoff in the ditch (PRC 1993). In 1986, metals and organics were detected in sludge that Chemical Processors excavated from the ditch and upland sumps (PRC 1993). In 1991, metals were detected in waterfront groundwater and at lesser concentrations in upland groundwater (no analysis was done for PCBs and PAHs) (PRC 1993). In 1991 and 1992, metals and PCBs were found in soils along the waterfront, as well as in upland soils at lower concentrations (PRC 1993).

Chemical Processors claims to have never operated a business on this property. During its ownership, Brazier Forest Products did not conduct any business activities on the property (PRC 1993).

In 1992, McMillan Piper applied for a shoreline development permit to develop the upland parcel into a container freight transfer facility (PRC 1993). The permit requires wetland filling and buffers and an NPDES permit for stormwater discharge. Taylor Way Properties signed an agreed order to conduct a Model Toxics Control Act (MTCA) remedial investigation and interim source control action on the property's waterfront parcel.

The interim action plan (DOF 1994) indicates that testing done in 1992 on parcel B showed that while most of parcel B was free of contamination, metals and PCBs were present on portions of the parcel. The interim actions will take place as follows: soils which exceed sediment or soil cleanup levels will be excavated, and water quality data will be collected to assess whether PCBs or metals are migrating from parcel B to Hylebos Waterway at concentrations which would adversely affect sediment quality (DOF 1994).

1500 Taylor Way (other end of property fronts on 1701 Alexander Ave.) (#13)

Owner/Occupant	Type of Operation	Years
Probably J.P. Hunt	(sublessee to Chem. Processors) trailer and container lot	UK - Present
Chemical Processors, Inc./Burlington Environmental	(lessee); RCRA-permitted hazardous waste management (treatment, storage, and disposal) facility: see property 10-C	1985 - Present
Solidus Corporation		1981 - Present
(b) (6)	owner	1980 - 1982
	owner	1980 - 1982
	owner	1969 - 1981
Northwest Processing, Inc./Clean Care Corp.	waste oil recycling	1988 - Present
Chem-Pro of Oregon (formerly Harbor Oil, Inc.)	petroleum waste recycling	1974 - 1975
Acology Oil		1970 - 1973
Puget Sound Industrial Petroleum	petroleum waste recycling	1973 - 1974
Education Manufacturing Co.		1961 - 1969

Classes of Chemicals Associated with the Property: organics, metals, asbestos

Potential Pathways to Hylebos Waterway: none confirmed (Ecology 1993d)

Milestone 1 Status: not listed

Summary of Available Information Including Documented Discharges and Loadings: This part of the Chemical Processors property is used for container storage. For further information, see property #10-C.

2000 Taylor Way (#14)

Owner/Occupant	Type of Operation	Years
AOL Express, Inc.	warehouse for packaged groceries and household items for shipment to Alaska	**1982 - 1983** **1988 - Present** 1982 - Present
J.B. Gottstein/Carr-Gottstein Foods Co.	warehouse for groceries and household items for transport; leases from AOL	1983 - Present
Gateway Consolidators	leased to AOL, then merged	1983 - Present
(b) (6)		1981 - 1982
Buffelen Woodworking Co.	green lumber storage	**1972 - 1982** 1965 - Present
Lindal Cedar Homes (aka Justus Cedar Homes)	historical owner	1970 - 1982
Mutual Fir Column Co. (Lindal Cedar Homes)	historical owner, now prefabricated houses	1971 - 1982
Rothschild WA Stevedoring		1975 - 1981
Steamer Service		1969 - 1975
WWB, Inc.		1972
Hausermon, Inc.		UK - 1972
Educators Manufacturing Co.		1961 - 1969
E.F. Hauserman Co. (or Hausman)		1969 - 1971
Washington Stevedoring		UK

Classes of Chemicals Associated with the Property: organics (PCBs, PAHs, oil), metals

Potential Pathways to Hylebos Waterway: none confirmed (Ecology 1993d)

Milestone 1 Status: not listed

Summary of Available Information Including Documented Discharges and Loadings: In 1992, catch basin and manhole sediment samples taken by Ecology showed concentrations of metals, PCBs, and PAHs below sediment quality objectives (PRC 1993). Concentrations of total petroleum hydrocarbons were above MTCA cleanup standards in a catch basin sample (Dames & Moore 1992). Although this catch basin was once attached to a drain which discharged to a sewer that empties into Hylebos Waterway, the drain collapsed soon after installation and the pathway for surface water was reverted to a pump system which goes to the Lincoln Avenue ditch and then empties into Blair Waterway (Ecology 1993d). AOL Express was not identified as an ongoing source of problem chemicals to Hylebos Waterway by Ecology (1993d).

1707 Alexander Ave. (#15)

Owner/Occupant	Type of Operation	Years
Northwest Processing, Inc./Clean Care Corp.	waste oil recycling (RCRA facility)	1988 - Present
Solidus Corporation	petroleum wastes recycling	1981 - Present
Poligen Corporation	petroleum wastes recycling	1974 - 1987
(b) (6)	owner	1969 - 1981
Educators Manufacturing Co.		1961 - 1969
Port of Tacoma	owner	UK - 1961
Petro Processors, Inc.		UK

Classes of Chemicals Associated with the Property: organics, metals

Potential Pathways to Hylebos Waterway: none confirmed (Ecology 1993d)

Milestone 1 Status: not listed

Summary of Available Information Including Documented Discharges and Loadings: ASARCO slag and leaking petroleum tanks are sources of problem chemicals at this property (PRC 1993). Twenty-six trucks of slag fill were removed and taken to the Coski landfill (PRC 1993). In 1987, there was a spill of material containing heavy metals, PCBs, and PAHs. Runoff from this site goes to AOL Express, which was not identified as an ongoing source of problem chemicals to Hylebos Waterway by Ecology (1993d).

1801 Alexander Ave. (#16)

Owner/Occupant	Type of Operation	Years
Sol-Pro, Inc.	(on Ecology list as RCRA facility)	UK - Present
Solidus Corporation	owner	1981 - Present
Chemical Processors, Inc./Burlington Environmental		1975 - 1986
(b) (6)	owner	1969 - 1981
Chem-Pro of Oregon (formerly Harbor Oil, Inc.)	petroleum waste recycling	1974 - 1975
Puget Sound Industrial Petroleum	petroleum waste recycling	1973 - 1974
Education Manufacturing Co.		1961 - 1969

Classes of Chemicals Associated with the Property: organics, metals, asbestos

Potential Pathways to Hylebos Waterway: none confirmed (Ecology 1993d)

Milestone 1 Status: not listed

Summary of Available Information Including Documented Discharges and Loadings: For property and drainage description, see property #10-C. Sol-Pro was not identified as an ongoing source of problem chemicals to the Mouth of Hylebos Waterway by Ecology (1993d).

1851 Alexander Ave. (#16-A)

Owner/Occupant	Type of Operation	Years
Standard Mechanical		UK - Present
Solidus Corp./Poligen Corp.	petroleum wastes recycling	1981 - Present
Chemical Processors, Inc./Burlington Environmental		1976 - 1986
(b) (6)	owner	**1969 - 1981** 1975 - 1986

Classes of Chemicals Associated with the Property: organics, metals, asbestos

Potential Pathways to Hylebos Waterway: none confirmed (Ecology 1993d)

Milestone 1 Status: not listed

Summary of Available Information Including Documented Discharges and Loadings: At one time, this property had an NPDES permit, but the type of wastewater and the location of the discharge are not documented (PRC 1993). For further site and drainage information, see property #10-C.

3319 Lincoln Ave. (Alexander Ave. and Lincoln Ave.) (#16-B)

Owner/Occupant	Type of Operation	Years
Graham Medical Products		UK

Classes of Chemicals Associated with the Property: none identified

Potential Pathways to Hylebos Waterway: none identified

Milestone 1 Status: not listed

Summary of Available Information Including Documented Discharges and Loadings: No available information. Judging from its location, this property may drain to Blair Waterway.

3409 Lincoln Ave. (#16-C)

Owner/Occupant	Type of Operation	Years
ATCO/American Tar Co.		UK

Classes of Chemicals Associated with the Property: none identified

Potential Pathways to Hylebos Waterway: none identified

Milestone 1 Status: not listed

Summary of Available Information Including Documented Discharges and Loadings: No available information. Judging from its location, this property may drain to Blair Waterway.

3401 Lincoln (#16-D)

Owner/Occupant	Type of Operation	Years
Sol-Pro, Inc.		UK - Present
Accurage Packaging		UK - Present
MapleTex Furniture Warehouse		UK - Present

Classes of Chemicals Associated with the Property: none identified

Potential Pathways to Hylebos Waterway: none identified

Milestone 1 Status: not listed

Summary of Available Information Including Documented Discharges and Loadings: No available information. Judging from its location, this property may drain to Blair Waterway.

1515-1601 Taylor Way (#17)

Owner/Occupant	Type of Operation	Years
Joseph Simon & Sons, Inc.	owner	1975 - Present
Rockeries, Inc.		UK - Present
Cascade Timber Co.	log sort yard	1987 - UK
Bay Marine, Inc.	sorting/storing logs and rocks	
Miller Livestock Co.		1986 - 1987
Rail & Locomotive Equipment Co.	locomotive and track dismantling and storage	1981 - 1984
Custom Iron		UK - 1981
Pacific Marine Industrial Chemical		UK
George R Marvin Co.	welding and steel manufacturing	1950's (?)
Harris Petroleum Company	bulk fuel storage	1950's (?)
(b) (6)		UK

Classes of Chemicals Associated with the Property: metals, organics

Potential Pathways to Hylebos Waterway: direct discharge, stormwater drainage, surface runoff

Milestone 1 Status (Simon and Sons): List 3

Summary of Available Information Including Documented Discharges and Loadings: Possible sources of chemicals in the site soils and sediments are metal scrap from the boatbuilding and railroad operations, transformers, and a documented oil spill (PRC 1993). In addition, there have been releases of heavy metals and PAHs (PRC 1993). Ecology sampling in 1991 revealed levels of arsenic, copper, and lead in storm runoff at 300-600 ppb, in sediments from a drainage swale at 1,000 ppm, and in upland soils at 10-200 ppm (PRC 1993). PCBs were also detected in sediment samples from the drainage swale at levels up to 1.2 ppm (Kennedy/Jenks 1994). An independent study of the site (Kennedy/Jenks 1994) found possible sandblast grit in the drainage swale; samples of this material contained arsenic and lead at levels above MTCA cleanup standards for industrial sites. Arsenic and mercury were detected in a

sediment sample from the swale at levels above MTCA industrial cleanup levels. Two samples of intertidal sediment accumulated from surface water drainage to the swale contained metals at concentrations exceeding SQOs. Two other sediment sample taken to the east and west of the center of the swale did not exceed SQOs for metals. PAHs were found in concentrations up to 5 ppm in sediment samples from below the old railroad spur. Mercury was detected in a sample in this area at a level above the MTCA industrial cleanup level. Surface water grab samples were collected during two storm events from three locations: ponded surface water to the west of the drainage swale, surface water that discharges along the east side of the swale, and a seep emanating from the bank west of the drainage swale. In the surface water samples, total metal concentrations exceeded surface water quality objectives (SWQOs), while dissolved metals, with the exception of copper, were below SWQOs. Both total and dissolved concentrations of copper were above the SWQOs. The higher total metal concentrations may be due to the high sediment load carried in the water. On the upland portion of the site, observations indicate that subsurface soil has been impacted by former fuel storage operations (Kennedy/Jenks 1994).

1621 Taylor Way (#18)

Owner/Occupant	Type of Operation	Years
(b) (6)	owner	1979 - Present
Nordlund Boat Company	fiberglass boatbuilding, office	1976 - Present
(b) (6)	owner	1974 - 1979(?)
(b) (6)		UK

Classes of Chemicals Associated with the Property: none identified

Potential Pathways to Hylebos Waterway: organics

Milestone 1 Status: Removed form List 2

Summary of Available Information Including Documented Discharges and Loadings: A UBAT inspection report from June 1989 indicates that at the time, there appeared to be no discharges to Hylebos Waterway from this property.

1801 Taylor Way (#19)

Owner/Occupant	Type of Operation	Years
Cenex Agriculture, Inc.	animal feed manufacturing, storage, and distribution	1982 - Present
Far West Trailer Repair		UK - Present
Miles Transport Services	truck/trailer repair	UK - Present
Ryder Truck Rental, Inc.	truck rental, washing, sales, maintenance, repair and storage	1987 - 1991
Land O' Lakes Company	animal feed manufacturing	1987 - 1990
Sea Lite Products	seafood processing	1985
Mermaid Industries	seafood processing	1982 - 1984
Menasha Corp.		1982 - 1984
Ballard Seafood, Inc.	seafood processing	1982 - 1984
Western Farmers Association		1946 - 1982
(b) (6)		1946 - 1982
Buffelen Woodworking Co.		UK - 1946
Tacoma Warehouse (vacant)		UK

Classes of Chemicals Associated with the Property: metals, organics (PAHs)

Potential Pathways to Hylebos Waterway: cooling water, oil/water separator water, and stormwater runoff discharged via a storm drain outfall

Milestone 1 Status (Miles Transport Services)**:** Removed from List 2

Summary of Available Information Including Documented Discharges and Loadings: The PRP report states that in 1983 the property was paved and a storm drain system, including three outfalls which discharge directly to Hylebos Waterway, was installed. Ryder Truck stored waste oil from its trucks in an underground storage tank on the property, and spills of the waste oil containing PAHs drained into on-site catch basins. Boiler blowdown and contact cooling water containing metals were discharged to a storm drain. From 1951 to 1986, effluent from the oil/water separator (OWS) in the truck repair shop was discharged to the storm sewer. In 1988, PAHs and metals were detected in sludge from the OWS. The City of Tacoma Sewer Utility

directed Ryder to connect the OWS to the Tacoma sanitary sewer system. In 1991, a Tacoma sewer inspector reported that Ryder was still using the old OWS.

In 1991, seven underground waste oil and fuel storage tanks were removed from the property, and soils containing PAHs and petroleum hydrocarbons were voluntarily remediated in 1992 (Kleinfelder 1992). A remedial action report from December 1992 (Kleinfelder 1992) states that soil affected by fuel hydrocarbons at concentrations greater than regulatory action limits was present in the vicinity of six former underground storage tank (UST) locations. In addition, approximately 225-305 cubic yards of soils that may be impacted by hydrocarbons remain under buildings and could not be excavated.

1901 Taylor Way (#20)

Owner/Occupant	Type of Operation	Years
Buffelen Woodworking Co. or predecessors	wooden doors, furniture, and plywood manufacturing	**1955 - Present** 1910 - Present
(b) (6) (1 parcel)	owner	UK - Present
(b) (6) (1 parcel)	owner	UK - Present

Classes of Chemicals Associated with the Property: metals, organics [pentachlorophenol (PCP), PCBs, formaldehyde]

Potential Pathways to Hylebos Waterway: surface runoff, groundwater seepage, NPDES-permitted outfall (historical)

Milestone 1 Status: List 3

Summary of Available Information Including Documented Discharges and Loadings: Buffelen historically swept wood and metal shavings from manufacturing operations onto the site soils or directly into the waterway (PRC 1993). PCP and other preservatives from the PCP treatment tanks and treatment area have been spilled onto site soils (PRC 1993), and dryer condensate/depitching process wastewater and glue wash water containing formaldehyde, phenols, and PCBs were discharged through the NPDES-permitted outfall. Metals and organics have been detected in the soil, and organics have been detected in the groundwater (PRC 1993). Metal and PCP contamination in the soil was voluntarily remediated; the excavated area will be capped (Mercuri 1994c, Mercuri et al. 1994).

2116 Taylor Way (#21)

Owner/Occupant	Type of Operation	Years
Superlon Plastic Pipe Co.	polyethylene pipe plant	1972 - Present
(b) (6) (b) (6)	owner	1992 - Present
(b) (6)	owner	1972 - 1992
Sauna & Spa Distributing Co.		1980 - 1986
Justus Cedar Homes (formerly Lindal Cedar Homes)	prefabricated wooden house manufacturing	1960 - 1972
American Industries		1965 - 1970
MC Plank, Inc.		1955 - 1960
DuPont Chemical	explosives plant, lead arsenate insecticide production	1944 - 1951
Latimer-Goodwin Chemical	lead arsenate insecticide production	1930 - 1940

Classes of Chemicals Associated with the Property: organics (PAHs), metals

Potential Pathways to Hylebos Waterway: surface water drains to Blair Waterway, pathway for groundwater is unknown

Milestone 1 Status (Superlon Plastic)**:** List 1

Summary of Available Information Including Documented Discharges and Loadings: Mutual Fir Column (1916 - late 1950s) discharged mercury into a bog on or near the property (Kroll 1992). DuPont and Latimer-Goodwin Chemical made pesticides whose manufacture used a large amount of arsenic. These companies may have dumped their effluent into drainage ditches (Kroll 1992). During a 1990 site investigation, 34 empty corroded drums were found in Superlon's dirt basement, and PAHs and very high concentrations of arsenic (60,000 ppm) and lead (260,000 ppm) were detected in soils (PRC 1993). Although surface water now drains to the Blair Waterway, historical drainage patterns may have changed over time due to filling and paving.

Taylor Way and 49th Ave. NE (#21-A)

Owner/Occupant	Type of Operation	Years
Melt Pac roofing products		UK - Present

Classes of Chemicals Associated with the Property: none identified

Potential Pathways to Hylebos Waterway: none identified

Milestone 1 Status: List 1

Summary of Available Information Including Documented Discharges and Loadings: In a meeting with Ecology site managers (Mercuri et al. 1994), this property was identified with Field's Products, which had a xylene spill.

2160 Taylor Way on 49th Ave. NE (#21-B)

Owner/Occupant	Type of Operation	Years
Puget Chemco (vacant)		UK

Classes of Chemicals Associated with the Property: none identified

Potential Pathways to Hylebos Waterway: none identified

Milestone 1 Status: List 1

Summary of Available Information Including Documented Discharges and Loadings: Puget Chemco occupied a building on Reichhold property.

3320 Lincoln (#21-C)

Owner/Occupant	Type of Operation	Years
Reichhold Chemical	Ecology RCRA facility	UK

Classes of Chemicals Associated with the Property: none identified

Potential Pathways to Hylebos Waterway: none identified

Milestone 1 Status: List 1

Summary of Available Information Including Documented Discharges and Loadings: A UBAT inspection found that all drainage was routed either to Blair Waterway or the city sewer (Coleman 1992).

3502 Lincoln Ave. (#22)

Owner/Occupant	Type of Operation	Years
Pan Pacific Trading Co.	realty corp. (owned by Murray since 1972); joint owner	1967 - Present
Murray Pacific Corp. (vacant since 1991)	Log Sort Yard No. 1, 1967-85; log chipping, 1985-91	**1967 - Present** 1967 - 1991
Buffelen Woodworking Co.		UK - 1967

Classes of Chemicals Associated with the Property: metals

Potential Pathways to Hylebos Waterway: surface water runoff, groundwater seepage

Milestone 1 Status: List 3

Summary of Available Information Including Documented Discharges and Loadings: Approximately 29,000 tons of slag or sandblast grit were used to ballast muddy soils on the property between 1975 and 1981 (PRC 1993).

In 1992, a leaking underground diesel fuel tank and diesel-contaminated soils were removed (PRC 1993). In compliance with a 1992 Ecology MTCA cleanup order, Murray Pacific and ASARCO, Inc. conducted an RI/FS at the property. The findings of the remedial investigation are summarized as follows (Hydrometrics 1994):

- Soils containing a slag/woodwaste mixture appear to be a source of arsenic and metals (copper, lead, and zinc) to soils, surface water, and groundwater.
- Sediments in the two on-site ditches and in the former Lincoln Avenue ditch appear to be secondary sources of arsenic and metals.
- Surface water contains arsenic and metals in excess of marine acute and chronic criteria, and is a pathway of arsenic and metals to Hylebos Waterway and groundwater system.
- Groundwater in the northern and western portions of the site contains elevated levels of arsenic. The primary source of this arsenic in the northern part of the site appears to be slag/woodwaste. The primary source in the western portion of the site appears to be sediments deposited in the former Lincoln Avenue ditch.
- Chromium is present in soils on the former USG Corporation property in low to moderate concentrations.

This property is scheduled for remediation in late 1994 or early 1995 (Shenk 1994).

3542 Lincoln Ave. (#22-A)

Owner/Occupant	Type of Operation	Years
Murray Pacific Corp.	log sort yard	**1991 - Present** 1967 - 1988
(b) (6)	owner of part of log sort yard	1907 - 1991
Seaport Bark Supply, Inc.	reclaim log sort yard bark for sale as beauty bark	1985 - 1988
(b) (6)	owner of part of log sort yard	1907 - 1991

Classes of Chemicals Associated with the Property: metals

Potential Pathways to Hylebos Waterway: surface water runoff, groundwater migration

Milestone 1 Status: List 3

Summary of Available Information Including Documented Discharges and Loadings: As stated in the PRP report (PRC 1993), until 1986 Seaport Bark Supply, Inc. discharged wastewater from a bark washing wastewater settling pond without an NPDES permit through a ditch directly to Hylebos Waterway. The discharge was contaminated with metals. In 1986, Tacoma-Pierce County Health Department (TPCHD) ordered the discharge closed. Seaport then operated a "closed-loop" settling and washing system, but occasional overflow from the ponds and surface runoff from the wood waste piles continued to release metals to a storm drain along Lincoln Avenue which discharged to Hylebos Waterway at TPCHD outfall No. 65.

Lincoln and Hylebos (#22-B)

Owner/Occupant	Type of Operation	Years
Murray Pacific Corp.	log sort yard	1960s - Present
Commencement Bay Moving & Storage		UK - 1960s
Buffelen Woodworking Co.		1967 - 1972

Classes of Chemicals Associated with the Property: metals

Potential Pathways to Hylebos Waterway: surface water runoff, groundwater seepage

Milestone 1 Status: List 3

Summary of Available Information Including Documented Discharges and Loadings: These companies operated on part of the Murray Pacific property (Mercuri et al. 1994). For additional information, see Property #22.

2240 Taylor Way (#23)

Owner/Occupant	Type of Operation	Years
Fields Products	asphalt roofing production	1986 - Present
(b) (6)	owner	1983 - Present
Wood Tone Stains		1980 - 1986
B-Line Transport		1982 - UK
Acme Foundry		1951 - 1970

Classes of Chemicals Associated with the Property: organics

Potential Pathways to Hylebos Waterway: none identified

Milestone 1 Status: List 1

Summary of Available Information Including Documented Discharges and Loadings: There was a 4,000 gallon xylene spill from a truck to the soil in May 1990; the affected area was paved over (PRC 1993). A UBAT inspection summary from 1992 reported minor asphalt spillage and sandblast grit (PRC 1993).

2340 Taylor Way (#23-B)

Owner/Occupant	Type of Operation	Years
Dyno Overlays	unoccupied building	UK - Present

Classes of Chemicals Associated with the Property: none identified

Potential Pathways to Hylebos Waterway: none identified

Milestone 1 Status: List 1

Summary of Available Information Including Documented Discharges and Loadings: There is no further available information on this property.

2301 Taylor Way (#24)

Owner/Occupant	Type of Operation	Years
USG Interiors, Inc.	rock wool production	1959 - Present
Murray Pacific Corp.	back half of Log Sort Yard No. 1	**1992 - Present** 1967 - Present
Edman Co.	evidently a log sort yard (according to USG)	UK - 1992
American Rock Wool	rock wool production	1955 - 1959
Feltrock Insulation		1946 - 1951
Carbide Manufacturing		1943 - 1946

Classes of Chemicals Associated with the Property: metals

Potential Pathways to Hylebos Waterway: groundwater migration, surface water runoff, direct discharge (historical), NPDES-permitted outfall (historical)

Milestone 1 Status: List 3

Summary of Available Information Including Documented Discharges and Loadings: Rock wool, used for insulation, is produced at this facility from smelter slag, basalt, and oil. In 1973, residual materials, bag house dust and shot were scraped from the site. Sampling revealed elevated levels of chromium, arsenic, and lead in groundwater and soils, and lower concentrations in storm drain samples (PRC 1993). The groundwater contamination is probably a result of historical spills and poor management practices (PRC 1993). In 1992, soil samples taken by Ecology showed levels of arsenic at 200 mg/kg and concentrations of up to 11,190 mg/kg chromium (PRC 1993). A seep sampled by the EPA in 1980 and by Ecology in 1992 showed high levels of arsenic, copper, lead, and zinc, and a bank composite sample also taken in 1992 had slightly high levels of arsenic and zinc (82 ppm and 485 ppm, respectively; Ecology 1994a). USG is presently conducting a Phase 1 site investigation which involves groundwater sampling, surface soil sampling, and seep identification (Mercuri 1994c). Initial results from this investigation show elevated levels of arsenic (140 ppm and 72 ppm) in 2 of 8 surface soil samples and all but one groundwater well, and total chromium above the MTCA Industrial Cleanup level in three surface soil samples (Mercuri 1994i). The back portion of this property was bought by Murray Pacific in 1992 and is included as a part of their remedial investigation.

2901 Taylor Way (#25)

Owner/Occupant	Type of Operation	Years
Elf Atochem North America, Inc./Pennwalt Corp.	chemical production	1927 - Present

Classes of Chemicals Associated with the Property: metals, chlorinated organics

Potential Pathways to Hylebos Waterway: groundwater seepage, surface runoff, NPDES-permitted outfall

Milestone 1 Status: List 3

Summary of Available Information Including Documented Discharges and Loadings: Elf Atochem currently produces chlorine based chemicals. From the early 1940s to 1972, Pennwalt produced arsenic-based pesticides on the property (Ecology 1993c). Four sources of releases of problem chemicals have been documented: sludge containing arsenic; chlorinated organic by-products of the electrolytic chlorine manufacturing process (both of these were disposed of on-site in the "Penite" lagoon); spills of sodium dichromate; and metals associated with cooling water which were discharged through the facility's NPDES outfall (PRC 1993).

The principal pathway to Hylebos Waterway is believed to be groundwater, which transports chemicals that were formerly disposed of in the Penite lagoon to Hylebos Waterway. Some of this water was being collected in underground drain lines, however these were plugged in 1985 (Ecology 1993c). The second pathway is surface water runoff, although this is probably not a significant source of discharge to the waterway as almost all of the precipitation that falls on the site penetrates the soil and there are no storm sewers (PRC 1993). The third pathway is the direct discharge of process wastewater and cooling water through Atochem's outfall, which is regulated under the NPDES program (PRC 1993).

Elf Atochem entered into a consent decree with the Department of Ecology in 1987 to conduct a remedial investigation and feasibility study. The RI/FS found that arsenic was bound in a very alkaline matrix in the soil, and estimated arsenic loadings to the waterway from the groundwater of 8-50 pounds per day (Ecology 1993c). A more recent study suggests that the daily discharge may have been approximately 4 lb. (Intera 1990). The selected groundwater cleanup option included the following tasks, all of which have been completed (the fifth is ongoing).

- Excavate 1,300 tons of arsenic sludge and haul it to the hazardous waste facility at Arlington, Oregon
- Install a sheet pile barrier wall 600 feet long by 30 feet deep adjacent to the shoreline as an interim measure to slow the flow of groundwater into the waterway

- Install a groundwater extraction and treatment system capable of removing arsenic in its highly alkaline matrix
- Route all wastewater from the plant and the site (including stormwater) through a single outfall with a multi-port diffuser
- Monitoring at an extensive series of on-site wells to track arsenic concentrations throughout the site, to ensure hydrogeologic containment, and to ensure groundwater at the edges of the barrier wall complies with cleanup standards established for the site. Report monitoring results once every four months.

The latest tri-annual report (Boateng 1994) states that dissolved arsenic is migrating toward the northeastern end of the barrier wall; however, future operation of the treatment plant at higher rates of flow is predicted to reverse this migration.

An NPDES permit, re-issued in 1991 and valid through February, 1996, sets limits for total suspended solids, antimony, chromium, copper, residual chlorine, and arsenic (Ecology 1991b). The permit also requires that Elf Atochem prepare and implement the following studies: flow and waste load; effluent biomonitoring; chemical analysis of influent, effluent, and internal streams; effluent mixing; sediment quality; effluent particulate quality; spill control; stormwater quality; solid waste control; and discharge elimination/reduction (Ecology 1993c, Ecology 1991b).

2952 Taylor Way (#25-A)

Owner/Occupant	Type of Operation	Years
Elf Atochem North America, Inc./Pennwalt Corp.	office	UK - Present

Classes of Chemicals Associated with the Property: none identified

Potential Pathways to Hylebos Waterway: none identified

Milestone 1 Status: not listed

Summary of Available Information Including Documented Discharges and Loadings:
There is no additional information on this property.

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3009 Taylor Way (#26)

Owner/Occupant	Type of Operation	Years
Elf Atochem North America, Inc./Pennwalt Corp.	owner	1957 - Present
Echo Lumber	log sorting, debarking, and chipping yard	1984 - 1986
Dunlap Towing Co.	log sort yard (sublease from Portac)	1979 - 1983
Portac, Inc. (formerly West Coast Orient Lumber Mill, a subsidiary of Mitsui USA, Inc.)	log sort yard	1977 - 1983
Johnson-Byers, Inc. (aka Goodwin-Johnson)	log sort yard	1967 - 1977
Balfour Guthrie	log sort yard	1964 - 1966
Milwaukee Boom Co.	no activity during ownership	UK - 1957

Classes of Chemicals Associated with the Property: metals, phenols [believed to be from woodwaste decomposition (Ecology 1993c)]

Potential Pathways to Hylebos Waterway: surface water runoff, seeps to Kaiser Ditch, groundwater (limited), runoff via East Channel Ditch

Milestone 1 Status: Removed from List 3

Summary of Available Information Including Documented Discharges and Loadings: Between 1974 and 1986, approximately 1,100 cubic yards of slag was transported to the property to ballast the muddy soils and roadways. Dunlap Towing reported that it purchased about 1,000 tons of slag during the years that it operated on the property (PRC 1993). During remedial investigations conducted at the property between 1987 and 1988, metals and organics were detected in soils, in groundwater, and in surface water runoff and seeps leading to Kaiser Ditch, to East Channel Ditch, and to Hylebos Waterway (PRC 1993). The property has been vacant since 1986.

In compliance with a 1987 consent decree, the following cleanup actions were taken (Ecology 1993c):

- Wood waste was consolidated into a lined cell with a leachate collection system.

- Affected soils and slag were consolidated into a lined cell with a leachate collection system; remedial action objectives for soil were set for arsenic and lead.
- Uncontaminated metal debris was disposed of at a nearby construction landfill.
- Wood waste and slag piles were fenced off to restrict access.
- The site was graded to divert all surface runoff to a single discharge point for post-cleanup monitoring of the runoff.
- The entire site was planted with grass to minimize erosion

The intertidal area was not included in these actions (Mercuri 1994c).

Site remediation has been completed and the property has been delisted by Ecology as an ongoing source of concern (Ecology 1993d).

3003 Taylor Way (#27)

Owner/Occupant	Type of Operation	Years
Petroleum Reclaiming Services, Inc. (PRSI)	petroleum waste products transportation and reprocessing	1978 - Present
Annon May and Wendell Smith	co-owner	UK - 1987
Pacific Northwest Processing	rendering plant	UK

Classes of Chemicals Associated with the Property: metals, organics

Potential Pathways to Hylebos Waterway: surface water via the East Channel Ditch (historical)

Milestone 1 (addendum) Status: not an ongoing source of concern (Ecology 1993f). (This site was previously as "pending" by Ecology, which meant that Ecology needed further information before determining whether the property was an ongoing source of chemicals to the waterway.)

Summary of Available Information Including Documented Discharges and Loadings: In the early 1980s, there were recurring spills of waste oil to the soils on the property and violations of the Tacoma sewer system industrial user discharge permit conditions. The East Channel Ditch runs from the property through the boundary between the two Elf Atochem properties to Hylebos Waterway. In 1988, EPA contractors detected metals and organics in sediments and surface water from the ditch, as well as in soils in its vicinity. The problem chemicals in the surface water may have come from the 3009 Taylor Way log yard, which drains into the ditch north of the site (PRC 1993). Shallow buried soils sampled by PRSI found problem chemicals, but at average levels below the SQOs (Ecology 1992a). Ditch sediment samples collected by Ecology in 1990 indicated that PRSI is not an ongoing source of problem chemicals to Hylebos Waterway (Ecology 1992a).

3002 Taylor Way (#28)

Owner/Occupant	Type of Operation	Years
Puyallup Tribe	owner	1992 - Present
Port of Tacoma	owner	1940 - 1992
Plum Creek Timber	no evidence; tenant after period of slag use	1988 - 1989
Portac, Inc.	log sort yard	1987 - 1988
Pan-Pac Yard No. 3 (Murray Pacific Corp.)	log sort yard	1980 - 1986
Cascade Timber Co.	Log Sort Yard No. 2	1983 - 1984
Murray Pacific Corp.	Log Sort Yard No. 2	1975 - 1983
Ohio Ferro-Alloys Corp.	electric furnace ferro-silica and chromium alloy smelter	1941 - 1975

Classes of Chemicals Associated with the Property: metals, organics (PAHs, pesticides)

Potential Pathways to Hylebos Waterway: wastewater discharge (historical), storm water runoff

Milestone 1 Status: List 3

Summary of Available Information Including Documented Discharges and Loadings: The property comprises 17 acres of the 85-acre Blair Backup Property, one of six Puyallup land settlement properties that has been transferred from the Port of Tacoma to the Puyallup Tribe. From at least 1956 to 1974, Ohio Ferro-Alloys discharged non-contact cooling water and air emission treatment wastewater from its operations to Hylebos Waterway via an on-site settling pond and a ditch on the south side of the property (PRC 1993) which drained to Kaiser Ditch. Wastewater from these processes typically contains metals and PAHs (PRC 1993). Chromium slag and charcoal briquettes associated with Ohio Ferro-Alloys were also found on site (Ecology 1993c). Another potential source of problem chemicals at this property is slag, which was purchased by tenants in the 1970s and early 1980s (PRC 1993). Soil and groundwater samples show elevated levels of metals (PRC 1993). In 1992, the Port entered into a Memorandum of Agreement (MOA) with the Puyallup Tribe, EPA, and Ecology for investigation and cleanup of the transfer properties. In 1993, EPA and the Port signed an administrative order on consent to

implement cleanup on the Blair Backup Property. The cleanup actions include the following (Ecology 1993c):

- Buried charcoal briquettes (which contain PAHs) will be excavated and disposed of at an off-site location.
- The on site sandblast grit will be excavated, placed in an approximately 7-acre area on a buffer material above the existing chromium slag and soil mixture, and capped with an asphalt-geotextile cap and a wearing course.
- The remaining 10-acre portion of the log sort area that is not capped with asphalt will be covered with two feet of sand and gravel to minimize direct contact with the material.
- An adequate storm drainage network will be installed and maintained, a groundwater monitoring program will be implemented, and long-term operation and maintenance of the cover and cap will be performed.
- Institutional controls will prevent use of shallow groundwater as a drinking water supply, will restrict surface and subsurface work in the covered and capped area, and will restrict on site use to industrial uses.

3401 Taylor Way (#29)

Owner/Occupant	Type of Operation	Years
Weyerhaeuser Co.	log sort and export yard	1970 - Present
Kaiser Aluminum & Chemical Corporation	owner; no known releases during ownership	UK - 1970
DuPont Chemical	explosives plant	1944 - 1946

Classes of Chemicals Associated with the Property: metals, organics (PAHs, PCBs, phenol)

Potential Pathways to Hylebos Waterway: groundwater seeps and surface runoff via direct discharge and the Kaiser Ditch

Milestone 1 Status: List 2

Summary of Available Information Including Documented Discharges and Loadings: EPA identified potential sources of problem chemicals including fuels, lubricating oils and greases, hydraulic oils, naturally-occurring chemicals in raw logs, spent sandblast grit, and metal associated with the weathering of metallic equipment and buildings (PRC 1993). Waste oils are now treated by an oil/water separator at the vehicle/equipment wash area which discharges to the Tacoma sanitary sewer. Oil and gas from the separator was being stored in five USTs; releases to soil and groundwater are documented (PRC 1993). In 1991 two USTs were removed and three were stored in place (PRC 1993). Free product and affected soils were removed from the site (PRC 1993).

3400 Taylor Way (#30)

Owner/Occupant	Type of Operation	Years
Kaiser Aluminum & Chemical Corp.	primary aluminum reduction	1947 - Present
	plant closed	1958-1964
Olin Mathieson Chemical Corp.	primary aluminum reduction	UK-1947

Classes of Chemicals Associated with the Property: organics (PAHs)

Potential Pathways to Hylebos Waterway: Kaiser Ditch (historical), NPDES-permitted outfall

Milestone 1 Status: List 3

Summary of Available Information Including Documented Discharges and Loadings: In the past, Kaiser Aluminum used a wet scrubber system for air pollution control. The water used in this process was discharged to on-site settling ponds, which were found to have high concentrations of PAHs in the settled sludge (Ecology 1993c). Water from these ponds, from non-contact cooling water, and storm water flowed into Hylebos Waterway via the Kaiser Ditch. In 1989, PAHs, PCBs, methylphenol, and several problem metals were detected in sediment samples taken from the ditch system downstream of the settling pond (PRC 1993). Kaiser Ditch drains a number of properties in addition to Kaiser Aluminum.

The Department of Ecology and Kaiser Aluminum signed a consent decree in July 1990 which initiated the consolidation and cleanup of the PAH-contaminated sludges, sediments, and soils found at Kaiser and Port of Tacoma property, and the Kaiser Ditch (Ecology 1993c). The cleanup proceeded as follows (Ecology 1993c):

- Existing basins were drained to an infiltration basin and dried to serve as containment cells for affected sludges/soils. Eight monitoring wells monitor the "sludge management area". These actions were completed in 1991.
- Soil with problem concentrations of PAHs was transferred to the drained basins and capped. Land surrounding the basins was regraded to route stormwater away from the basins and to the infiltration basin. These actions were also completed in 1991.
- Contaminated sediments in the Kaiser Ditch were removed, and Outfall 001, which had previously drained to the Kaiser Ditch, was rerouted to a deep-water outfall in Hylebos Waterway. This was completed in 1992.

Kaiser has an NPDES permit for stormwater and non-contact cooling water discharge from its four outfalls. It requires monitoring of PCBs, aluminum, total suspended solids, fluoride, oil and grease, benzo(a)pyrene, free cyanide, nickel, copper, and pH (Ecology 1992b). A permit modification required Kaiser to conduct acute and chronic biomonitoring studies, prepare a sediment baseline study, and determine the dilution ratio of effluent to receiving water at the edge of the dilution zone provided for Outfall 001 (Ecology 1993c). As of May 1993, and in the first four months of 1994, Kaiser was in compliance with its permit limits (Ecology 1993c, Kaiser Aluminum 1994). Future use of this site is limited to industrial purposes (Ecology 1993c).

Alexander Ave. near East-West Road (#30-B)

Owner/Occupant	Type of Operation	Years
Tacoma City Light		UK - Present

Classes of Chemicals Associated with the Property: none identified

Potential Pathways to Hylebos Waterway: none identified

Milestone 1 Status: not listed

Summary of Available Information Including Documented Discharges and Loadings:
There is no available information on this site.

3702 Taylor Way (#31)

Owner/Occupant	Type of Operation	Years
U.S. Government/Bonneville Power Administration	electricity distribution substation	1943 - Present
Occidental Chemical Corporation sludge site	lime sludge dumping	UK

Classes of Chemicals Associated with the Property: metals, organics (PCBs)

Potential Pathways to Hylebos Waterway: surface water runoff via Fife Ditch

Milestone 1 Status: List 1

Summary of Available Information Including Documented Discharges and Loadings: PCBs and arsenic were released to the soil, and TCE is present in the groundwater (PRC 1993).

3601 Taylor Way (#32)

Owner/Occupant	Type of Operation	Years
Lone Star Northwest, Inc./Lone Star Industries, Inc.	concrete batching	1987 - Present
Tucci and Sons	asphalt batching	1993 - Present
Reidel International, Inc. (aka Pioneer Construction Materials Co.)	concrete batching	1985 - 1987
Glacier Sand and Gravel	former name of Lone Star Northwest	1970 - 1985
Kaiser Aluminum & Chemical Corporation		1947 - 1970

Classes of Chemicals Associated with the Property: organics (diesel)

Potential Pathways to Hylebos Waterway: wastewater via the Kaiser Ditch, NPDES-permitted stormwater outfall

Milestone 1 Status: List 2

Summary of Available Information Including Documented Discharges and Loadings: Minor diesel fuel spills were reported during Kaiser's ownership, but no releases of problem chemicals to Hylebos are documented (PRC 1993). Until 1992, high pH wastewater from concrete mixing operations was discharged from an on-site settling pond to a ditch that flowed into Kaiser Ditch and then to Hylebos Waterway, in violation of the NPDES permit issued to Glacier Sand and Gravel (PRC 1993). The discharge was connected to the Tacoma sanitary sewer system in the 1980s, but discharges to Hylebos Waterway continued at least until 1990 (PRC 1993). Lone Star was recycling all of its wastewater by 1992; the only discharge from the property is now from an NPDES-permitted storm water outfall.

3701-3825 Taylor Way (#33)

Owner/Occupant	Type of Operation	Years
Louisiana Pacific Corp.	saw mill or log sort yard	1974 - Present
Cheney Lumber		1967 - 1974
Port of Tacoma		1959 - 1967

Classes of Chemicals Associated with the Property: metals (arsenic, copper, lead, zinc)

Potential Pathways to Hylebos Waterway: stormwater runoff

Milestone 1 Status: List 3

Summary of Available Information Including Documented Discharges and Loadings: Approximately 5,000 cubic yards of slag or sandblast grit was used to ballast the yard between 1974 to 1978 (PRC 1993). Runoff from the property was sampled in 1983, 1984, and 1987, and was found in each case to contain elevated levels of metals associated with slag: arsenic, copper, lead, and zinc (Ecology 1993c). Ground water was not significantly affected by these chemicals (Ecology 1993c). In 1992, Ecology issued an enforcement order requiring implementation of a cleanup action plan, which includes the following actions (Ecology 1993c):

- Capping of the entire log yard with roller-compacted concrete of suitable strength and low permeability characteristics to prevent infiltration of stormwater into underlying slag/soil and minimize erosional transport of metal-containing soils
- Design and placement of a stormwater collection system which provides sedimentation and oil/water separation
- Implementation of best management practices, including regular sweeping of the log deck, inspection/maintenance of the cap, and inspection/maintenance of the stormwater collection and treatment system.

The City of Tacoma has issued a shoreline permit for the cleanup, which will involve capping the site, constructing an outfall diffuser, and planting wetland buffers. The site has been capped, and stormwater from the property is routed through a sedimentation basin and an oil/water separator to one outfall on Hylebos Waterway (Schrieve 1994b). Groundwater monitoring has begun (Mercuri et al. 1994). Bank sampling has not been completed.

Taylor Way and East-West Road: 1405 Marine View Dr. (#34)

Owner/Occupant	Type of Operation	Years
Huge sawdust pile, owner unknown		UK - Present
Louisiana Pacific Corp.	satellite log sort yard	1986 - 1987
Port of Tacoma		UK - Present

Classes of Chemicals Associated with the Property: metals (arsenic, copper, lead, zinc)

Potential Pathways to Hylebos Waterway: stormwater runoff via Fife Ditch

Milestone 1 Status: List 3

Summary of Available Information Including Documented Discharges and Loadings: Slag was used to ballast this property (PRC 1993).

East-West Road and Taylor Way (#35)

Owner/Occupant	Type of Operation	Years
Puyallup Tribe		1992 - Present
Port of Tacoma	owner	1972 - 1992
Weyerhaeuser Company	log scaling	1972 - Present
Mitsubishi International Corp.		1969 - 1972

Classes of Chemicals Associated with the Property: organics, metals (zinc, antimony)

Potential Pathways to Hylebos Waterway: surface water runoff via Fife Ditch, groundwater migration

Milestone 1 Status: not listed

Summary of Available Information Including Documented Discharges and Loadings: This property is part of the Puyallup Tribe transfer lands. Prior to the transfer, sampling by a consultant for the Port detected zinc, antimony, TCE, and various non-problem volatile organic compounds in the groundwater in the southern portion of the site (PRC 1993). Problem chemicals were detected in soils in the south part of the site, and in soils, sediments, and groundwater in the drainage ditch, but concentrations were below MTCA cleanup action levels (PRC 1993). The report for the Port concluded that the property was not a significant source of problem chemical releases to Hylebos Waterway (PRC 1993).

1600-1602 Marine View (#36)

Owner/Occupant	Type of Operation	Years
Port of Tacoma	owner	UK - Present
Louisiana Pacific Corp.	log sort yards	1986
Wasser & Winters Co., Inc.	log sort yard and storage area	1972 - 1984
Gitt Brothers		1970 - 1980
Mitsubishi International Corp.		1968 - 1972

Classes of Chemicals Associated with the Property: metals (arsenic, copper, lead, zinc)

Potential Pathways to Hylebos Waterway: stormwater runoff

Milestone 1 Status: List 3

Summary of Available Information Including Documented Discharges and Loadings: During Wasser-Winters' tenancy, slag was placed on the property as ballast. Stormwater sampling in 1983 and 1984 showed high levels of arsenic, copper, lead, and zinc; the presence of these chemicals in the runoff was confirmed in 1987 (Ecology 1993c). Soil and groundwater samples were also taken in 1987; the soil had concentrations of metals significantly above background levels, but the groundwater had not been affected (Ecology 1993c). In 1991, the Port of Tacoma signed an agreed order with Ecology to perform a Remedial Investigation/Feasibility study for the property, which led to a Cleanup Action Plan.

The following cleanup steps have been completed:

- The site was capped and a stormwater drainage system was installed
- 100 feet of the Hylebos Creek was excavated "to native" and back-filled with clean soil
- There is ongoing groundwater monitoring.
- A fence was installed and the disturbance barrier was re-vegetated

1622-1630 Marine View Dr. (#37)

Owner/Occupant	Type of Operation	Years
Nordlund Properties, Inc.	owner, office	1979 - Present
Nordlund Boat Company	fiberglass boat building, pressure washing	1988 - Present
Hart Construction	marine construction	1967 - 1979
Port of Tacoma		UK
Tacoma Marine Electric Co.		UK - Present
APUTCO, Inc.		1983 - Present
Tim Bailey and Associates	sporting goods sales	1988 - UK
Pederson Oil, Inc.	petroleum product storage	1980 - 1986
Republic Supply Co.	sublease	1983 - UK
Harbor Services, Inc.	outboard motor service and repair	1980 - 1983
Harbor Construction		1970 - 1980

Classes of Chemicals Associated with the Property: organics

Potential Pathways to Hylebos Waterway: stormwater runoff via settling pond

Milestone 1 Status: List 3

Summary of Available Information Including Documented Discharges and Loadings: Construction materials used in the fiberglass boat construction business include xylene and other organic chemicals (PRC 1993). Currently, wash water as well as stormwater runoff from the paved property drain to a vegetated retention pond with an oil-water separator, which then discharges to Hylebos Waterway (PRC 1993, Mercuri 1994d). Ecology reports that the facility has fairly good management practices but should sweep their yard more often (Mercuri 1994d). There are plans to install a wash water treatment system (Mercuri 1994d).

1650 Marine View Drive (#38)

Owner/Occupant	Type of Operation	Years
Streich Brothers	machine repair and structural steel fabrication	1966 - Present
Port of Tacoma		UK - 1966
APUTCO, Inc.		1983 - Present
Hart Construction	marine construction	UK - 1979

Classes of Chemicals Associated with the Property: organics, metals

Potential Pathways to Hylebos Waterway: surface water runoff via storm water outfall

Milestone 1 Status: List 1

Summary of Available Information Including Documented Discharges and Loadings: According to the PRP Report (PRC 1993), Streich Brothers uses lubricating fluids, paints, adhesives, solvents, petroleum fuels, copper, lead, nickel, zinc, and TCE in its operations. Although some sandblasting is done on the property, the grit is subsequently cleaned up (Coleman and Herold 1992). The entire property is paved (Coleman and Herold 1992). Wastewater is routed through an oil-water separator and recycler, then discharged to the Tacoma sanitary sewer system. Surface water runoff drains through catch basins to a storm sewer that discharges through an outfall to Hylebos Waterway. The effluent from this outfall was observed to have a slight sheen on it (Coleman and Herold 1992).

1635 Marine View Drive (#39)

Owner/Occupant	Type of Operation	Years
Jim Foran Company	inert materials dump, gravel pit	UK - Present

Classes of Chemicals Associated with the Property: organics, metals

Potential Pathways to Hylebos Waterway: none identified; surface runoff drains to Hylebos Creek

Milestone 1 Status: List 1

Summary of Available Information Including Documented Discharges and Loadings: A facility inspection in 1992 reported oil contamination on the ground (Mercuri and Coleman 1992a). Water samples taken in 1991 from an outfall to Hylebos Creek that drains an on-site pond showed the presence of arsenic, lead, mercury, copper, nickel, zinc, and TCE; only copper exceeded the state marine acute water quality standards (Mercuri and Coleman 1992a). Sediments at this location had concentrations of arsenic, copper, lead, zinc, antimony, phthalate, and PCB; the levels of zinc, copper, and bis(2-Ethylhexyl)phthalate were above SQOs (Mercuri and Coleman 1992a).

1670 Marine View Dr. (#40)

Owner/Occupant	Type of Operation	Years
Puyallup Tribe	vacant	1992 - Present
Port of Tacoma	owner	1968 - 1992
Anchorage, Inc.		UK - Present
Manke Lumber Co., Inc.	wood products	1974 - 1976
Puget Sound Log Traders		1972 - 1973
Mitsubishi International Corp.	wood products	1968 - 1970

Classes of Chemicals Associated with the Property: metals, organics

Potential Pathways to Hylebos Waterway: drainage ditches, groundwater seeps

Milestone 1 Status: List 1

Summary of Available Information Including Documented Discharges and Loadings: This "Upper Hylebos Property" is part of the Port of Tacoma/ Puyallup Tribe transfer lands. The Final Investigation Report, commissioned by the Port of Tacoma, concluded that although problem chemicals were detected in groundwater and in soil and ditch samples, these chemicals were not at concentrations which required remedial action (Landau 1991). Four intertidal and five subtidal sediment samples representing the length of the property's shoreline contained levels of arsenic, copper, zinc, HPAH, phenol, phthalates, and PCBs which exceeded SQOs; levels of PCBs, arsenic, and HPAH in the sediments were above remedial action levels (Landau 1991). The only reported remedial action at the property was the removal of an open standpipe which had been "an inviting place for the disposal of wastes, especially liquids" (Landau 1991).

1690 Marine View Drive (#41)

Owner/Occupant	Type of Operation	Years
Jones-Goodell Corp.	shipbuilding and repair of metal, fiberglass, and wooden yachts	1976 - Present
J & G Investments	owner	1976 - Present
Jones-Goodell Shipbuilding Corp.		1968 - 1976
Port of Tacoma		UK - 1968

Classes of Chemicals Associated with the Property: metals (copper, arsenic, nickel, zinc)

Potential Pathways to Hylebos Waterway: storm water runoff, tidal flushing

Milestone 1 Status: List 3

Summary of Available Information Including Documented Discharges and Loadings: Spent sandblast grit was used as fill behind a bulkhead at the facility; samples taken in 1992 of sediment mixed with this grit contained levels of copper four times the SQO. The grit was cleaned up later in the same year (Mercuri 1992a). This facility presently has a general boatyard NPDES permit. Pressure washing is conducted in the marine railway area, and wastewater from this process is directed to a catch basin, where it is pumped into an oil/water separator. The effluent from the separator is directed to the sanitary sewer (Stephens 1994b, Mercuri and Stephens 1993). The site is paved and graded to direct stormwater into the treatment system; however, the volume of water that results from these operations may overload the City of Tacoma's stormwater system and Jones-Goodell may be asked to redirect stormwater. Ecology inspectors observed spent sandblast grit on the ground and a pile of used batteries on the property in October, 1993 (Mercuri and Stephens 1993) and sandblast grit in and outside a shed on the property in 1994 (Bagley and Stephens, 1994).

1720-1750 Marine View Dr. (#42)

Owner/Occupant	Type of Operation	Years
Manke Lumber Co., Inc.	paved storage area for cut lumber, waterfront log boom float	**1976 - Present** 1964 - Present
Port of Tacoma		UK
(b) (6)		UK - Present
Nordlund Boat Co.	boat building	**1967 - 1976** 1970 - 1980

Classes of Chemicals Associated with the Property: organics (phenols, oil and grease)

Potential Pathways to Hylebos Waterway: surface water runoff

Milestone 1 Status: List 2

Summary of Available Information Including Documented Discharges and Loadings: Water quality sampling done by Ecology in 1991 of Manke's main outfall indicated low levels of phenol and 4-methylphenol, and oil and grease above Ecology's recommended level (Gooding 1991). A PCP dip tank and two petroleum LUSTs have been remediated at the paved property (PRC 1993). Bark and other wood waste was observed along the bank and in the water during this inspection and by field crews during Sampling Event 1B of Hylebos Waterway Pre-Remedial Design Project in July 1994. Documented releases include: an unknown quantity of diesel from a tanker truck (no known pathway); oil from an oil/water separator in 1987; 200 gallons of hydraulic fluid (that did not reach the waterway) in 1987; and 1.5 quarts of PCP dripped from treated lumber in 1988 (PRC 1993).

1717 Marine View (#42-A)

Owner/Occupant	Type of Operation	Years
Manke Lumber Co., Inc.	office, sawmill, pellet mill, truck & heavy equipment repair shop	UK - Present

Classes of Chemicals Associated with the Property: none identified

Potential Pathways to Hylebos Waterway: none identified

Milestone 1 Status: not listed

Summary of Available Information Including Documented Discharges and Loadings: There is no additional information on this property.

1840 Marine View Dr. (#42-B)

Owner/Occupant	Type of Operation	Years
Pacific Northwest Terminal	tallow plant	UK - Present

Classes of Chemicals Associated with the Property: organics (animal fats), corrosives

Potential Pathways to Hylebos Waterway: boiler condensate to storm drain, groundwater

Milestone 1 Status: List 1

Summary of Available Information Including Documented Discharges and Loadings: A UBAT inspection summary from June 1990 (Gooding and Godbout 1990) reported that steam cleaning wastes are directed to an oil/water separator which discharges to the sanitary sewer. Boiler blowdown also discharges to the sanitary sewer; boiler condensate was discharged to a storm drain, but installation of a pump to direct it to the sanitary sewer was planned. Tallow is sent through a pipeline to Manke Lumber, where it is loaded onto ships. There appeared to be a leak of tallow into the ground from the sump located by the southernmost entrance to the facility. There was also a roofing tar spill at the time of inspection.

1840 Marine View Dr. (#43)

Owner/Occupant	Type of Operation	Years
Tacoma Boatbuilding Co.	boat building and repair (Yard No. 1)	**UK - Present** 1969 - Present
Northern Line Machine & Engineering		1975 - 1980
(b) (6)		1974 - UK
(b) (6)		1927 - 1974

Classes of Chemicals Associated with the Property: metals, organics

Potential Pathways to Hylebos Waterway: drainage ditch, direct discharge from boat-launch ramps, NPDES-permitted outfalls

Milestone 1 Status: List 3

Summary of Available Information Including Documented Discharges and Loadings: Activities at Tacoma Boatbuilding include welding, metal cutting and cleaning, machining, sandblasting, painting, carpentry, and pipefitting. Of these, sandblasting, metal cleaning, and painting are sources of problem chemicals. In the past, releases have included metals and organics to soils, and metals (arsenic, copper, lead, and zinc) to Hylebos Waterway (PRC 1993). In March, 1993, Tacoma Boatbuilding was issued an NPDES permit to discharge wastewater from nine outfalls along Hylebos Waterway (Ecology 1993e). The permit sets effluent limitations for oil and grease, total suspended solids, pH, copper, lead, mercury, nickel, and zinc (Ecology 1993e). Compliance with these limits is supposed to be achieved through the implementation of Best Management Practices, but if these are not effective in meeting source control requirements, an engineering report on a treatment system will be required (Ecology 1993c). At present, Tacoma Boatbuilding is financially unstable and is unable to meet permit requirements (Mercuri 1994c).

1751 Marine View Dr. (#44)

Owner/Occupant	Type of Operation	Years
Manke Shop/Manke Lumber Co.		UK - Present
Port of Tacoma		UK - Present
Tacoma Boat	parking lot	1971 - 1986
Pacific Northwest Terminals	parking lot	UK

Classes of Chemicals Associated with the Property: none identified

Potential Pathways to Hylebos Waterway: stormwater

Milestone 1 Status: not listed

Summary of Available Information Including Documented Discharges and Loadings: According to Ecology inspectors, this property is used as a truck shop for Manke Lumber. Truck wash and possibly stormwater from the property drain to the sanitary sewer (Mercuri 1994j).

1902 Marine View Dr. (#45)

Owner/Occupant	Type of Operation	Years
General Metals of Tacoma, Inc.	ferrous scrap metals recycling	**1992 - Present** 1966 - Present
(b) (6) **/SRS Properties, Inc.**	real estate management	1966 - 1992
Universal Metal Products		1970 - 1975

Classes of Chemicals Associated with the Property: metals, organics (PCBs)

Potential Pathways to Hylebos Waterway: surface water runoff, tidal flushing

Milestone 1 Status: List 3

Summary of Available Information Including Documented Discharges and Loadings: This property has been used for log staging and for metal recycling. Present operations involve the purchase, preparation, processing, storage, and shipment of ferrous scrap metal (Ecology 1993c). Sources of the metal have included junk car bodies, engines, and transformers (PRC 1993). Studies of surface soil done in 1988-1989 found elevated levels of PCBs, arsenic, copper, lead, and zinc; surface water samples from six discharge points, sumps, and weirs on the property showed exceedances of marine ambient acute water quality criteria for these chemicals (Ecology 1993c). Several groundwater samples were found to have concentrations of metals and PCBs above marine ambient acute water quality criteria (Ecology 1993c). Per an Agreed Order, no soils were required to be removed as they did not contain PCBs in excess of 50 ppm.

General Metals began treating stormwater on 15 March 1991 and discharges to Hylebos Waterway by way of one outfall under an NPDES permit. Sediment data collected prior to the installation of a diffuser showed concentrations of antimony, arsenic, and lead above SQOs. Post-diffuser installation showed concentrations of arsenic and mercury above SQOs (Sweet-Edwards 1991).

A 1991 MTCA consent decree required General Metals to implement the following cleanup action plan (Ecology 1993c):

- Cap the site over a 4-year period (1992 - 1995)
- Install a drainage system to collect stormwater from the process areas to be capped
- Develop a Best Management Practices plan to minimize or eliminate the release of hazardous substances from the site

- Conduct monitoring of shallow and deep groundwater on site to evaluate the effectiveness of the cap.

According to Ecology site inspectors, the capping is proceeding as planned, and the stormwater drainage system is completed and is working well (Mercuri et al. 1994). Groundwater monitoring is ongoing.

1803-1883 Marine View Dr. (#46)

Owner/Occupant	Type of Operation	Years
Port of Tacoma		UK - Present
(b) (6)	owner	1975 - Present
Occidental Chemical Corporation	dumped sludges containing VOCs and metals	1972 - 1978
(b) (6)		UK

Classes of Chemicals Associated with the Property: organics (chlorinated organics), metals

Potential Pathways to Hylebos Waterway: surface runoff via Morningside Ditch, groundwater

Milestone 1 Status: List 2

Summary of Available Information Including Documented Discharges and Loadings: Occidental Chemical Corporation used this property as a sludge disposal site (Mercuri 1992b). The material that Occidental (at the time Hooker Chemical) disposed of consisted of brine sludge and wastes from tri- and tetrachloroethene production (Ecology 1985). Brine sludge is composed of calcium carbonate, magnesium hydroxide, sodium chloride, 1.5% strontium, and 0.2% lead. The waste from the solvent plant contained 0.4% chlorinated organics, 0.1% asbestos, 50 ppm lead, and 10 ppm copper (Ecology 1985). At the time of testing, groundwater within the disposal area contained 10 mg/L trichloroethene and 2.5 mg/L tetrachloroethene; groundwater outside the disposal area and surface water were not significantly affected by these chemicals (Ecology 1985).

2052 Marine View Dr. (#46-A)

Owner/Occupant	Type of Operation	Years
Woodworth & Co., Inc.		UK - Present

Classes of Chemicals Associated with the Property: none identified

Potential Pathways to Hylebos Waterway: none identified

Milestone 1 Status: not listed

Summary of Available Information Including Documented Discharges and Loadings:
There is no further information available on this property.

Norpoint Way and Highline Rd. (#47)

Owner/Occupant	Type of Operation	Years
Woodworth & Co., Inc.	gravel crushing and washing, asphalt batch plant	1938 - Present

Classes of Chemicals Associated with the Property: organics (petroleum products)

Potential Pathways to Hylebos Waterway: surface water via the Morningside Ditch

Milestone 1 Status: List 2

Summary of Available Information Including Documented Discharges and Loadings: Gravel-washing wastewater and cooling water are discharged to a holding pond, which overflows to Morningside Ditch (PRC 1993). Asphalt leakage from the batch plant (Herold and Naccarato 1991), numerous small petroleum product spills (PRC 1993), and improper storage techniques (Herold and Naccarato 1991) have been documented at this facility. There are plans for this property to become a subdivision (Mercuri et al. 1994).

1919 Marine View Dr. (#48)

Owner/Occupant	Type of Operation	Years
Jones Chemicals, Inc.	sodium hypochlorite and anhydrous ammonium production	**1973 - Present** 1974 - Present
Woodworth & Co., Inc.	gravel pit	UK - 1974
(b) (6)	owner	UK - 1973

Classes of Chemicals Associated with the Property: inorganics (chlorine, acids, sodium hydroxide, sulfur dioxide)

Potential Pathways to Hylebos Waterway: stormwater via the Morningside Ditch

Milestone 1 Status: List 2

Summary of Available Information Including Documented Discharges and Loadings: In 1986, sodium hypochlorite and wastewater were released to the Morningside Ditch from a cracked sump (PRC 1993). After this release, Ecology detected high levels of free residual chlorine in water in the ditch at the property's boundary (PRC 1993). Jones Chemicals was issued a civil penalty as a result of this release (PRC 1993). According to Ecology inspectors, this property is not a source of problem chemicals to Hylebos Waterway (Mercuri et al. 1994).

Highline Road (#48-A)

Owner/Occupant	Type of Operation	Years
vacant		UK - Present
(b) (6)		1975 - Present
Port of Tacoma		UK

Classes of Chemicals Associated with the Property: none identified

Potential Pathways to Hylebos Waterway: none identified

Milestone 1 Status: not listed

Summary of Available Information Including Documented Discharges and Loadings: No further information is available on this site.

1940-1950 Marine View Dr. (#49)

Owner/Occupant	Type of Operation	Years
(b) (6)	property owner	1975 - Present
Don and Alba Oline	owner of Hylebos Marina, Inc.	1972 - 1975
Dillingham Corp.		UK - 1972
Hylebos Marina, Inc. (b) (6) family)	boatbuilding and repair, boat motor repair, boat and equipment storage	1960 - Present
Hylebos Boat Haven (b) (6)		1960 - Present
Harbor Services, Inc. (b) (6) (b) (6))		1982 - Present
SRF Enterprises		1980 - 1986
Yacht Doctors		1980 - 1986
Aquila Sailboats		1980 - 1986
CLK Yacht Crafters		1980 - 1986
(b) (6)		late 1960s - 1982
PCI Corp.		1980 - 1986
(b) (6)		1980 - 1986

Classes of Chemicals Associated with the Property: organics (solvents, lacquers, enamels, epoxies, oil)

Potential Pathways to Hylebos Waterway: surface runoff, groundwater migration

Milestone 1 Status: List 3

Summary of Available Information Including Documented Discharges and Loadings: The Hylebos Marina strips paints from boats on a gravel yard (PRC 1993). Waste oil from a leaking tank may also be a source of problem chemicals (PRC 1993). The marina has an NPDES boat yard permit; they recycle their boat wash water (Mercuri et al. 1994, 1994e). Surface water on the property is routed to drainage ditches and directly into the waterway (PRC 1993).

1800 Marine View Drive is considered a part of the same site; it also belongs to the Olines. This property may have been used for the disposal of lime waste and shredded auto interiors (PRC 1993).

2000, 2112 Marine View Dr. (#50)

Owner/Occupant	Type of Operation	Years
Johnson Engines (according to Port of Tacoma map)	equipment repair	UK
(b) (6)		UK - Present
(b) (6)		UK - Present
Hylebos Dock #3		UK - Present
Hylebos Boat Haven		1965 - 1975

Classes of Chemicals Associated with the Property: see property #50

Potential Pathways to Hylebos Waterway: see property #50

Milestone 1 Status: not listed

Summary of Available Information Including Documented Discharges and Loadings: This is a part of the Olines' property.

2120 Marine View Dr. (#51)

Owner/Occupant	Type of Operation	Years
Mather Auctioneers	auction site (formerly waste disposal)	1984 - Present
Knapp Boatbuilding Co. ((b) (6))	cleaning and painting of boat hulls	1980 - 1986
(b) (6)		1972 - Present

Classes of Chemicals Associated with the Property: metals, organics (PCBs)

Potential Pathways to Hylebos Waterway: seeps, leaching, tidal flushing

Milestone 1 Status: List 3

Summary of Available Information Including Documented Discharges and Loadings: This property is the western end of the Olines' property. Auto fluff extends along the bank for 25 or more feet; the fluff is not protected and has eroded into Hylebos Waterway (Mercuri 1992c). In 1992, material in the auto fluff area was found by Ecology to have concentrations of cadmium, copper, lead, nickel, zinc, and PCBs that exceeded SQOs (Mercuri 1992c). The Olines have proposed to clean up the auto fluff. A site investigation is presently underway (Mercuri 1994j).

2218 Marine View Drive (#52)

Owner/Occupant	Type of Operation	Years
Modutech Marine, Inc.	yacht construction and boat repair	1983 - Present
(b) (6)	owner of property and Modutech	1991 - Present
Babet Fund III	owner	1979 - 1991
Marine Technical Services		1980 - 1986
Martinolich Ship Building		1975 - 1980
Tide Bay, Inc.		1970 - 1975
(b) (6)	owner	UK

Classes of Chemicals Associated with the Property: metals, organics (acetone, PCBs)

Potential Pathways to Hylebos Waterway: stormwater runoff through drainage swale to outfall, groundwater

Milestone 1 Status: List 3

Summary of Available Information Including Documented Discharges and Loadings: In the past, sandblast grit was spread on gravel roads throughout the property. In samples taken from the property in 1991, concentrations of several problem chemicals, including mercury, lead, cadmium, copper, zinc, phenol, LPAHs, and HPAHs exceeded SQOs (Mercuri 1992d). PCBs were also detected at 9.2 ppb in a sample from an area that appeared to contain auto fluff; although no auto fluff was observed during some later site inspections (Mercuri 1994f), auto fluff was observed in the bank at the north part of the property behind concrete rip-rap, and rubber hoses and gaskets were observed in the intertidal area during field work in 1994 (Mercuri 1994k). All of the sandblast grit has been removed from the site. Modutech Marine has a general boatyard NPDES permit; they are currently in compliance with its requirements (Mercuri 1994g).

2408 Marine View Dr. (#52-A)

Owner/Occupant	Type of Operation	Years
Barton Marine Supplies	retail sales surplus and used marine supplies, equipment storage and boat repair	1990 - Present
Stone Investments	ship moorage and repair	1984 - Present
(b) (6)	lack of available information	1985 - Present
(b) (6)	owner	1984 - UK

Classes of Chemicals Associated with the Property: organics (oil), metals

Potential Pathways to Hylebos Waterway: surface water runoff

Milestone 1 Status: Removed from List 2

Summary of Available Information Including Documented Discharges and Loadings: This property, which is adjacent to the waterway, was inspected by Ecology in April 1991. Barton Marine Supplies occupies the southeastern part of the site. On the rest of the property, there were moored ships and a barge, which may present a spill potential (Mercuri et al. 1994). Ship repair and conversion were taking place over the water. The property is covered by gravel; surface oil stains were evident (Herold 1991b). Mixed wood waste; drums full of paint waste, batteries, and waste oil; diesel engines; a scrap lead-lined tank from a pulp mill; and waste tires were stored on the property (Herold 1991b). One soil sample taken in May 1991 from a demolition area in the middle of the property had a concentration of zinc above the SQO (Herold 1991a).

2224-2228 Marine View Dr. (#53)

Owner/Occupant	Type of Operation	Years
Fulton Trucking	small trucking operation	UK
Wilson Bros. Logging	lessee	UK
(b) (6)		1984 - UK
Buffelen Woodworking Co.		UK - 1984
Stone Investments		UK

Classes of Chemicals Associated with the Property: organics (oil), metals

Potential Pathways to Hylebos Waterway: unknown

Milestone 1 Status: Removed from List 2

Summary of Available Information Including Documented Discharges and Loadings: The following information is from an Ecology inspection in August 1991 (Herold and McKenna 1991). Fulton Trucking is a one-man operation; the owner operates three tractor-trailer trucks and one large trailer. He does maintenance work on-site. At the time of the inspection, there was running water but no hookups to any sewer. One visible sump was filled with what appeared to be oily black water. There were numerous junk cars, trucks, trailers, and pieces of equipment on site.

2215 Marine View Dr. (#54)

Owner/Occupant	Type of Operation	Years
unknown	pallet repair	UK - Present
Diesel Truck and Marine Service	diesel engine repair	UK
Woodworth & Co., Inc.		UK - Present

Classes of Chemicals Associated with the Property: organics

Potential Pathways to Hylebos Waterway: surface water runoff

Milestone 1 Status: Removed from List 2

Summary of Available Information Including Documented Discharges and Loadings: Waste oil, paints, gasoline, solvents, and possibly PAHs have been released at this property (PRC 1993). According to Ecology site inspectors, there has been a voluntary cleanup of the property, and it is not considered a source of problem chemicals to Hylebos Waterway (Mercuri et al. 1994).

2429 Marine View Dr. (#55)

Owner/Occupant	Type of Operation	Years
Coski Pacific Forge & Tool Co.		1986 - Present
(b) (6)	owner	UK - Present
Coski Transfer Co.	trucking service and storage	UK - Present
(b) (6)		UK - 1986
(b) (6)		UK - Present
(b) (6)		UK - 1986

Classes of Chemicals Associated with the Property: none identified

Potential Pathways to Hylebos Waterway: none identified

Milestone 1 Status: not listed

Summary of Available Information Including Documented Discharges and Loadings:
There is no further available information on this property.

2502-2602 Marine View Drive (#56)

Owner/Occupant	Type of Operation	Years
McFarland Cascade Holdings, Inc.	commercial real estate management and development	1984 - Present
Cascade Pole & Lumber Co., Inc.	log sort yard; property inactive since 1981	**1973 - 1984** 1973 - 1977
Cascade Timber Co.	Log Sort Yard No. 1; log rafting and storage	1977 - 1981
Woodworth & Co., Inc.	owner	1967 - 1973
Kewanee Oil		1960 - 1973
Puget Sound Tug & Barge		1957 - 1960

Classes of Chemicals Associated with the Property: metals (arsenic, copper, lead, zinc), organics

Potential Pathways to Hylebos Waterway: surface runoff via two storm drain outfalls

Milestone 1 Status: List 3

Summary of Available Information Including Documented Discharges and Loadings: The following information is from the PRP report (PRC 1993): Cascade Pole owned the property from 1978 to 1981, when its tenant, Cascade Timber Co., purchased approximately 1,600 tons of slag from B & L Trucking to ballast the muddy ground surface. Approximately 2,500 to 3,000 cubic yards of a mixture of slag, wood debris, and dirt is present. Surface water runoff samples collected in 1988 contained metals at low levels. In accordance with a 1989 Agreed Order, an RI/FS was completed in 1990. The results showed arsenic in soil borings and lower levels of metals and organics in groundwater. Cleanup was scheduled to be completed in July 1993.

According to the Ecology site manager (Mercuri et al. 1994), the yard is presently being scraped and the resulting debris is being temporarily held in a lined cell. The scraping is scheduled to be completed in November 1994. Following this, there will be no outfalls from the site. There are no plans to pave the yard.

2505-2515 Marine View Dr. (#57)

Owner/Occupant	Type of Operation	Years
City of Tacoma		1992 - Present
Woodworth & Co., Inc.		1984 - Present
Tacoma Sand & Gravel	gravel pit	UK - Present
(b) (6)	owner	UK - Present
Coski Pacific Forge & Tool Co.		1986 - Present
Hoss Trucking		1989 - UK
(b) (6)		UK - 1986
(b) (6)		UK - 1984
Diesel Truck & Marine		UK - 1984
Coski Waste Disposal Site	waste disposal site	UK

Classes of Chemicals Associated with the Property: none identified

Potential Pathways to Hylebos Waterway: surface water via city ditch and storm drain

Milestone 1 Status: Removed from List 2

Summary of Available Information Including Documented Discharges and Loadings: There is no further available information on this site.

2628-38, 2751 Marine View Dr. (#58)

Owner/Occupant	Type of Operation	Years
Sound Refining Co.	petroleum refinery	1970 - Present
Wright Marine Towing, Inc.	tug moorage, maintenance, and repair	1986 - UK
Marvin's Tank Farm		1965 - 1970
Tacoma Tug & Barge		1951 - 1970

Classes of Chemicals Associated with the Property: metals (copper, zinc, arsenic), organics, sulfides, ammonia

Potential Pathways to Hylebos Waterway: NPDES-permitted wastewater outfall, stormwater runoff, tidal flushing of contaminated soil

Milestone 1 Status: List 3

Summary of Available Information Including Documented Discharges and Loadings: In addition to petroleum refining, Sound Refining has stored and blended gasoline on the property (PRC 1993). Sources of contamination have included oil transfer, tank cleaning wastes, and the effluent treatment pond (PRC 1993). The treatment system includes an API separator, surge pond, oil/water separator, settling tank, aeration basin, rotating biological solids treatment system, and clarifier (Ecology 1990). Sound Refining was issued an NPDES permit to discharge wastewater in 1990; this permit includes numerical effluent limits for biological oxygen demand (BOD), total suspended solids (TSS), oil and grease, phenolic compounds, ammonia, sulfide, chromium, and pH. Problem chemicals detected in 1992 in the sediments around the facility's wastewater outfall included hexachlorobenzene, benzyl alcohol, copper, phenol, zinc, arsenic, and PCBs (PRC 1993).

According to the Ecology site manager, Sound Refining has had trouble meeting effluent limitations for conventionals (Kmet 1994). The facility is working with the City of Tacoma to accept process wastewater (Kmet 1994).

3906 East 11th St. (#59)

Owner/Occupant	Type of Operation	Years
Wright Marine Towing, Inc.	tug moorage, maintenance, and repair (vacant since 1992)	1986 - UK
Sound Refining Co.	petroleum refinery; leases to Wright Marine Towing	1957 - Present
Industrial Underwater Service		1986 - UK

Classes of Chemicals Associated with the Property: none identified

Potential Pathways to Hylebos Waterway: none identified

Milestone 1 Status: Removed from List 1

Summary of Available Information Including Documented Discharges and Loadings: There is no further available information on this site.

4102-4106 East 11th St. (#60, 61)

Owner/Occupant	Type of Operation	Years
Mintercreek Development, Inc.	owner	1983 - Present
Pacific Marine Repair	marine equipment fabrication/repair	1988-Present
Ferguson Manufacturing		1987 - Present
D & G Enterprises	unknown	UK - Present
Tacoma Boatbuilding Co.	ship repair	UK - Present
Rogers Rubber Products	roller printer repair	1984 - 1988
Collpitts Fabrication, Inc.		1980 - 1986
Vancouver Home Furnishings	waterbed manufacturing	UK - 1984
Bernard Coski	owner	1968 - 1983
Welding Supply Co.		1976 - 1983
Industrial Underwater Repair		1981 - UK
Coski Pacific Forge & Tool		1975 - UK
Crown Machine Works	machine shop; no information	1974 - 1978
Rainproof Roofing		1974 - 1976
Fiberglass Manufacturing		1974 - 1975
Samson Marine	ferro-cement boat hull building	1974 - 1989

Classes of Chemicals Associated with the Property: metals, organics

Potential Pathways to Hylebos Waterway: surface water runoff directly to the waterway and via 11th Street storm drains

Milestone 1 Status (Pacific Marine Repair)**:** Removed from List 2

Summary of Available Information Including Documented Discharges and Loadings: Potential sources of problem chemicals include solvents, metal shavings, spent sandblast, shot and grit, waste oils, boiler blowdown, wash waters, ash, acetone, TCE, paints, and thinners (PRC 1993).

4124 East 11th St. (#61A)

Owner/Occupant	Type of Operation	Years
RCI Environmental	construction material storage	UK - present
(b) (6)	owner of property and Allen Construction	1978 - Present
Banyan Rail, Inc.	truck and equipment storage yard	1988 - 1992
North Sea Yacht Sales	boat brokerage	1986 - 1987
Tunison Marine Sales	boat brokerage	1983 - 1986
Allen Construction Co.	offices and equipment yard	1978 - 1983
(b) (6)		UK - 1978

Classes of Chemicals Associated with the Property: metals, organics

Potential Pathways to Hylebos Waterway: surface water runoff via 11th Street storm drains

Milestone 1 Status (Banyan Rail)**:** List 3

Summary of Available Information Including Documented Discharges and Loadings: In 1990, Ecology observed metal ore slag, oil-contaminated gravel, drums of waste lubricating oils and unlabeled waste drums on the unpaved property (PRC 1993). Sampling in 1992 revealed concentrations of arsenic (840 ppm), cadmium (2.2 ppm), lead (590 ppm), and TPH (11,000 ppm) in site soils; sediments in an on-site catch basin had a TPH concentration of 3,300 ppm (PRC 1993), and zinc and arsenic above SQOs (Ecology 1994b). Since 1992, in response to an Ecology administrative order, the owner has removed oil tanks from the site and cleaned out the catch basins (PRC 1993). The site was paved (Mercuri et al. 1994), sediments from the two catch basins on the property were retested, and the catch basins were recleaned (Coleman 1994).

4110 East 11th St. (#62)

Owner/Occupant	Type of Operation	Years
Airo Services, Inc. (aka Crown Tank Cleaning Services, Inc.)	waste oil recycling, tank cleaning, chemical and oil spill cleanup, hazardous waste transport	1978 - Present
(b) (6)		1974 - Present
(b) (6)	owner of property and Bay Smelting	1949 -1975
Crown Zellerbach		1974 - UK
Bay Smelting Co.	zinc sulfate manufacturing	1954 - 1964
Bay City Marine		1951 - 1974
Bay Chemical	calcium chloride manufacturing and distributing	1962 - 1974
Camp Manufacturing		1951 - 1960
U & H Plating	chromium plating	1950 - 1960

Classes of Chemicals Associated with the Property: metals, organics

Potential Pathways to Hylebos Waterway: surface water runoff via 11th Street storm drains

Milestone 1 Status: Removed from List 2

Summary of Available Information Including Documented Discharges and Loadings: When Airo Services began operations at this facility in 1978, there was high pH waste material left from the Bay Chemical plant on site (Oberlander 1978). During the 1980s, Airo Services was in violation of several dangerous waste management regulations, and in 1988 was issued a civil penalty and administrative order (PRC 1993). In 1990, in response to a telephone complaint, Airo Services was inspected three times within two months. These inspections found numerous drums of improperly or unlabelled wastes on the property and eleven manifests which did not provide Land Disposal Restriction notification (Sonnenfeld 1990). A compliance letter was sent to the owner regarding these violations, but no response had been received by Ecology a year later, in September 1991 (Sonnenfeld 1992). The facility was inspected on September 19, 1991, and again, drums of improperly or unlabelled wastes, insufficient containment of hazardous materials, and health and safety violations were observed (Sonnenfeld 1992). The facility was inspected in January 1994 by the City of Tacoma and the Ecology Dangerous Waste

Section, and in March 1994 by the Ecology UBAT. According to Ecology, housekeeping practices have improved at the facility; drums are being removed or labeled, and the area where drums had been stored is being pressure washed (Mercuri 1994h). The facility accepts only material that has not been classified as dangerous waste (Mercuri 1994h). Water from the containment area must be pumped to the storm drains (Mercuri 1994h).

2914 Marine View Dr. (#63)

Owner/Occupant	Type of Operation	Years
Humanco Metal Products		UK - Present
(b) (6)	abandoned shop	1972 - Present

Classes of Chemicals Associated with the Property: none identified

Potential Pathways to Hylebos Waterway: none identified

Milestone 1 Status: Removed from List 2

Summary of Available Information Including Documented Discharges and Loadings: No further information is available.

2928 Marine View Drive (#64)

Owner/Occupant	Type of Operation	Years
former site of the Dent Doctor	autobody repair shop; now vacant	1982 - UK
(b) (6)	Dent Doctor owner and operator	1986 - Present

Classes of Chemicals Associated with the Property: none identified

Potential Pathways to Hylebos Waterway: surface runoff

Milestone 1 Status: List 1

Summary of Available Information Including Documented Discharges and Loadings: Because the documented releases to the soil are relatively insignificant and because no evidence of a direct release to Hylebos Waterway has been documented for this upland property, EPA provided The Dent Doctor a conditional release of liability for Hylebos response costs.

2930 Marine View Dr. (#64-A)

Owner/Occupant	Type of Operation	Years
Ken's	autobody repair shop	1984 - Present

Classes of Chemicals Associated with the Property: none identified

Potential Pathways to Hylebos Waterway: none identified

Milestone 1 Status: Removed from List 1

Summary of Available Information Including Documented Discharges and Loadings: The property is located approximately 1,000 feet from the waterway. No releases of problem chemicals and no pathways are documented; Ken's has received a conditional release of liability from EPA (PRC 1993).

3001 Marine View Dr. (#65)

Owner/Occupant	Type of Operation	Years
Cascade Custom Covers	canvas boat cover and upholstery manufacturing	1986 - Present
(b) (6)	owner of Cascade Custom Covers	1986 - Present
Stracke Fabricators	metal fabrication	1980 - 1986
(b) (6)	owner of Stracke Fabricators	1980 - 1986

Classes of Chemicals Associated with the Property: metals, organics

Potential Pathways to Hylebos Waterway: surface runoff via creeks and ditch

Milestone 1 Status: Removed from List 1

Summary of Available Information Including Documented Discharges and Loadings: A TPCHD inspection conducted in 1983 identified metals, metal paints, and solvents at Stracke Fabricators as potential sources of problem chemical releases (PRC 1993). Because there is no evidence of a release of problem chemicals during Huke's ownership, EPA provided Robert Huke a conditional release of liability (PRC 1993).

4225 East 11th St. (#66)

Owner/Occupant	Type of Operation	Years
(b) (6)	owner	1988 - Present
(b) (6)	owner	1982 - UK
Nordberg Auto Body	auto body shop	1982 - 1984
Dent Doctor	auto body shop	1981 - 1982

Classes of Chemicals Associated with the Property: metals, organics

Potential Pathways to Hylebos Waterway: surface runoff

Milestone 1 Status: not listed

Summary of Available Information Including Documented Discharges and Loadings: Nordberg Auto Body shop activities released PAHs, paint thinners, primers, lacquers, enamels, epoxies, alkyds, heavy metals, and petroleum (PRC 1993).

4000-4210 E. 11th St. and 3600-3700 Marine View Dr. (#67)

Owner/Occupant	Type of Operation	Years
One-Way Associates		1987 - Present
Puyallup Tribe	marina	1992 - Present
Manke Lumber Co.	lumber yard	1977 - 1978
Realco Services, Inc.		1976 - 1979
Industrial Mineral Products		1976
Foss Maritime		1974 - UK
Port of Tacoma	owner	UK - 1992(?)

Classes of Chemicals Associated with the Property: metals, organics

Potential Pathways to Hylebos Waterway: surface runoff via nine storm water outfalls, groundwater seeps

Milestone 1 Status: Removed from List 1

Summary of Available Information Including Documented Discharges and Loadings: This property is known as the Inner Hylebos Property, and is part of the Port of Tacoma/Puyallup Tribe Transfer Lands. Past operations have included a saw mill, log towing, boat yards, and a gas station (PRC 1993). Sources of problem chemicals include shredded automobile interiors, drums, and automobiles buried in the peninsula section of the property, petroleum spills on land and the water, and runoff from boat yards (PRC 1993). Metals (antimony, arsenic, copper, lead, zinc, nickel, chromium) and organics (TBT, PCBs, PAHs) have been detected in sediments in the vicinity of outfalls and seeps; cadmium, lead, mercury, PCBs, PAHs, and xylene have been detected in surface water runoff from the soils in the peninsula area (PRC 1993).

The Final Investigation Report (Landau 1992), commissioned by the Port of Tacoma, states that the auto refuse on the property was removed by the Port under EPA Order. Removal of drums and confirmation sampling were accomplished in February and March, 1991. Buried crushed drums and buried oily soil/sawdust were identified in March 1990 and were removed in May 1991. Although residual TPH concentrations exceeded criteria in some buried soil near groundwater surface, the cost of the removal of the soil was considered to be disproportionately high in comparison to the benefit to human health. The report identified no current or ongoing sources of contaminants to Hylebos Waterway from the Inner Hylebos Property, and concluded that no further action or cleanup requirements are needed.

Marine View Dr. (#67-A)

Owner/Occupant	Type of Operation	Years
Specialty Marine Shop	specialized parts manufacturer	UK - Present

Classes of Chemicals Associated with the Property: none identified

Potential Pathways to Hylebos Waterway: none identified

Milestone 1 Status: Removed from List 1

Summary of Available Information Including Documented Discharges and Loadings: There is no evidence of discharge from this property (Herold and Gooding 1990b).

4224 Marine View Dr. (#68)

Owner/Occupant	Type of Operation	Years
Don Olson, Charles Curran, et al.	owners of Ole & Charlie's	1984 - Present
Ole & Charlie's Marinas, Inc. (High and Dry No. 3)	marina, boat storage and repair	1985 - Present
Bayside Boat Sales		UK - Present
Trophy Boat Tops		UK - Present
Carl's Marine		UK - Present

Classes of Chemicals Associated with the Property: metals (arsenic, copper, zinc)

Potential Pathways to Hylebos Waterway: surface water via storm sewer outfall

Milestone 1 Status: List 3

Summary of Available Information Including Documented Discharges and Loadings: A UBAT inspection of the marina in 1990 (Herold 1990b) reported suspected oils, detergents, and sewage entering the waterway. At this time, the facility was recycling oil, but the oil storage barrels were located in a storage shed near an open drain. The Carl's Marine Repair Service facility had spilled blast grit and oil next to it. Sediment samples were taken on May 14, 1991 by Ecology and Tacoma City Sewer in the main stormwater collection basin at the northwest quadrant of the boatyard (Herold 1992). The samples had concentrations of arsenic, zinc, and copper above SQOs (Herold 1992). The source of the metals in the catch basins is disputed; Ole & Charlie's claims that the source of any contamination on the property is atmospheric fallout from the AK-WA Shipbuilding and Occidental Chemical Corporation facilities across the waterway (PRC 1993). Boat hull painting by previous occupants may also be a source (PRC 1993).

4026 Marine View Dr. (#68-A)

Owner/Occupant	Type of Operation	Years
Puyallup Tribe		1992 - Present
Ole & Charlie's Marinas No. 2 & 4	marina, boat storage and repair	1975 - Present
Port of Tacoma		UK - 1992

Classes of Chemicals Associated with the Property: none identified

Potential Pathways to Hylebos Waterway: none identified

Milestone 1 Status: not listed

Summary of Available Information Including Documented Discharges and Loadings: Ole and Charlie's Boathouse provides covered moorage for approximately 150 boats. Onshore facilities include a parking lot, a secured storage yard, and a small office. There are no fueling facilities or fuel tanks present (Landau 1992). There is no documentation of sources or releases of problem chemicals from the site (PRC 1993).

1010 54th Avenue East (#69)

Owner/Occupant	Type of Operation	Years
Milgard Manufacturing, Inc.	window manufacturing	1978 - Present
Milgard Tempering, Inc.	window manufacturing	1980 - Present

Classes of Chemicals Associated with the Property: metals, organics

Potential Pathways to Hylebos Waterway: surface water via Fife Ditch and Hylebos Creek

Milestone 1 Status: List 1

Summary of Available Information Including Documented Discharges and Loadings: Milgard has generated waste glues, vinyl, aluminum shavings, and solvents. At one time, spray coating wastewater was treated with lead flocculation; the supernatant was discharged to a drainage ditch (PRC 1993). After Ecology detected lead in surface soils on the property in 1988, Milgard excavated and disposed of 60 cubic yards of lead-containing soil. Milgard claims that its consultant sampled ditch sediments and detected no lead at the time (PRC 1993).

2902 Taylor Way (#70)

Owner/Occupant	Type of Operation	Years
Puyallup Tribe/Blair Backup Property		1992 - Present
Port of Tacoma		1940 - 1992
Ohio Ferro-Alloys Corp.	electric furnace ferro-silica and chromium alloy smelter	1941 - 1975

Classes of Chemicals Associated with the Property: see property #28

Potential Pathways to Hylebos Waterway: see property #28

Milestone 1 Status: see property #28

Summary of Available Information Including Documented Discharges and Loadings: This is the remaining portion of the 85-acre Blair Backup Property. For further information on sources and cleanup, see Property #28.

2958 Taylor Way (#70-A)

Owner/Occupant	Type of Operation	Years
Penntac Credit Union Office		UK - Present

Classes of Chemicals Associated with the Property: none identified

Potential Pathways to Hylebos Waterway: none identified

Milestone 1 Status: not listed

Summary of Available Information Including Documented Discharges and Loadings:
There is no available information on this property.

4215 East-West Road (#71)

Owner/Occupant	Type of Operation	Years
Portac, Inc. (Westcoast Orient Lumber Mill) - huge sawdust pile	log sort yard, lumber mill, and lumber treatment plant	1974 - Present
Port of Tacoma	owner	1974 - Present

Classes of Chemicals Associated with the Property: organics, metals

Potential Pathways to Hylebos Waterway: surface water via Hylebos Creek

Milestone 1 Status: List 1

Summary of Available Information Including Documented Discharges and Loadings: Waste oils, other petroleum products, PCP, PAHs, and slag-generated heavy metals are associated with this property (PRC 1993). The Port did a cleanup of the property (PRC 1993).

1621 Marine View Dr. (#72)

Owner/Occupant	Type of Operation	Years
Executive Bark, Inc.	office building	1986 - Present
Earth Enterprises, Inc. (aka Portside Recycling)		1990 - Present
B & L Trucking and Construction Co.	office, construction vehicle depot, and gravel pit	1970 - 1986

Classes of Chemicals Associated with the Property: organics, metals

Potential Pathways to Hylebos Waterway: surface runoff via Hylebos Creek

Milestone 1 Status: List 1

Summary of Available Information Including Documented Discharges and Loadings: Oil and slag were found on the ground at the property during a 1991 Ecology inspection. Follow-up sampling showed elevated levels of arsenic (329 ppm) and zinc (542) in a composite soil sample. (Herold 1991c).

6713 Pacific Highway East, Fife (#73)

Owner/Occupant	Type of Operation	Years
Western Superior Structural Manufacturing, Inc. (Western Engineering)	steel fabrication - cleaning, cutting, welding, and painting structural metal products	1966 - Present
(b) (6)	owner	1973 - Present

Classes of Chemicals Associated with the Property: organics, metals

Potential Pathways to Hylebos Waterway: stormwater runoff via Hylebos Creek

Milestone 1 Status: List 1

Summary of Available Information Including Documented Discharges and Loadings: This property has been the site of paint (containing zinc and chromium) spills (PRC 1993).

1537 Marine View Dr. (#74)

Owner/Occupant	Type of Operation	Years
vacant	trailer with "CMI" sign as of 10/92	UK - Present
Tacoma Bark Supply	bark sales	1980 - UK
Port of Tacoma	owner	1970 - Present

Classes of Chemicals Associated with the Property: organics

Potential Pathways to Hylebos Waterway: stormwater runoff via Hylebos Creek

Milestone 1 Status: List 1

Summary of Available Information Including Documented Discharges and Loadings: A 1983 TPCHD inspection noted possible bark leachate and waste oil entering Hylebos Creek from this property (PRC 1993). Waste oil spills from the maintenance shop and gasoline leaks from pumps between 1983 and 1985 are documented (PRC 1993). USTs were removed in 1989 (PRC 1993).

5403 Pendle Lease Road (#75)

Owner/Occupant	Type of Operation	Years
Coski Landfill	landfill	1965 - 1983
(b) (6)	owner and operator	1965 - 1983
(b) (6)		UK
U.S. Government		UK

Classes of Chemicals Associated with the Property: organics, metals

Potential Pathways to Hylebos Waterway: groundwater leachate via creek which runs into Morningside Ditch

Milestone 1 Status: List 2

Summary of Available Information Including Documented Discharges and Loadings: Dangerous waste from Poligen and auto fluff containing PCBs from General Metals of Tacoma were dumped here (PRC 1993). In the 1980s, low levels of problem chemicals were detected in leachate and soils at the landfill and in sediments in the creek below it. The stream enters a cachement area behind Manke Lumber, where it is piped underground to Morningside Ditch (Mercuri 1992e). Samples taken from the cachement area in 1991 and tested for base neutral organics, volatile organics, PCBs, phenols, and priority metals revealed no elevated levels of chemicals of concern (Mercuri 1992e).

Porter Way, Milton (#76)

Owner/Occupant	Type of Operation	Years
Executive Bark, Inc.	landfill	1986 - Present
B & L Trucking and Construction Co.	landfill	1978 - 1986(?)
(b) (6)	landfill	1977 - 1980
(b) (6)	landfill	UK - 1977

Classes of Chemicals Associated with the Property: organics, metals

Potential Pathways to Hylebos Waterway: groundwater leachate and surface water runoff via Hylebos Creek

Milestone 1 Status: List 3

Summary of Available Information Including Documented Discharges and Loadings: Between 1975 and 1984, approximately 350,000 cubic yards of wood waste, soil, and slag as well as much smaller volumes of shredded automobile interiors were disposed of at this landfill (PRC 1993). Louisiana Pacific Corp. generated wood waste that was sent to the B & L Landfill from 1978 to 1982 (PRC 1993). The landfill accepted soil fill until 1990 (PRC 1993). Surface runoff and leachate from the landfill drain directly to and seep into Surprise Lake Ditch, which flows into Hylebos Creek. During a 1987 investigation, metals and organics were found in samples of surface runoff, groundwater, and ditch sediments (PRC 1993).

In 1990, in accordance with an Ecology enforcement order, B & L Trucking, Louisiana Pacific Corp., Executive Bark, and Murray Pacific Corporation took part in an Ecology-directed cleanup of the site, which included the following tasks (Ecology 1993c):

- Consolidating soils and wood waste exceeding MTCA cleanup standards into a mound. Soils from adjacent properties and impacted ditch sediments were also added to the mound.
- Installing a leachate collection system at the base of the mound.
- Installing a multi-layer RCRA equivalent cap system, including a geosynthetic clay liner and a 40-mil PVC membrane liner.
- Planting the site with grass and wildflower seed.
- Installing a stormwater collection system, monitoring well system, and perimeter fence.

Post-cleanup monitoring will include quarterly analyses of stormwater and groundwater associated with the site.

U. S. Highway 99 (#77)

Owner/Occupant	Type of Operation	Years
Herbert and Anita Rendel		1986 - Present
USG Interiors, Inc. (aka US Gypsum)	industrial waste landfill	UK - 1986
USG Landfill	industrial waste landfill	1971 - 1973

Classes of Chemicals Associated with the Property: organics, metals

Potential Pathways to Hylebos Waterway: groundwater leachate and surface water runoff via Hylebos Creek

Milestone 1 Status: List 3

Summary of Available Information Including Documented Discharges and Loadings: This former landfill for mineral wool manufacturing wastes received primarily baghouse dusts, miscellaneous industrial debris, for a total waste stream of approximately 17,000 cubic yards (PRC 1993). In 1984 with approval from EPA and Ecology, USG voluntarily removed approximately two-thirds of the wastes to the CCSI Arlington Oregon landfill (PRC 1993). Post-cleanup monitoring of groundwater and surface water was required for two years (PRC 1993). USG states in its 1992 RIR that cleanup has been done in accordance with Ecology's consent decree and that monitoring is ongoing (PRC 1993).

Hylebos Waterway submerged lands (#78)

Owner/Occupant	Type of Operation	Years
Port of Tacoma (formerly Pierce County Commercial Waterway District No. 1)	owner	ca. 1916 - Present

Classes of Chemicals Associated with the Property: all problem chemicals

Potential Pathways to Hylebos Waterway: tidal flushing

Milestone 1 Status: not listed

Summary of Available Information Including Documented Discharges and Loadings: Between 1915 and 1918, the Waterway District acquired several parcels of tideflat lands from private owners and dredged the waterway through them (PRC 1993). The Waterway District transferred ownership of the submerged lands to its successor, the Port of Tacoma, in 1959 (PRC 1993). Since then, the Port has acquired small amounts of submerged lands in the Upper Turning Basin from the U.S. Government (PRC 1993). All problem chemicals associated with Hylebos Waterway are present in the sediments (PRC 1993).

Grice Landfill (#79)

Owner/Occupant	Type of Operation	Years
City of Tacoma	construction debris landfill (closed)	UK

Classes of Chemicals Associated with the Property: organics (paint, creosote)

Potential Pathways to Hylebos Waterway: surface water via Morningside Ditch

Milestone 1 Status: List 2

Summary of Available Information Including Documented Discharges and Loadings: This landfill is located in Julia's Gulch, a ravine above Hylebos Waterway (PRC 1993). Paint and creosoted timber, as well as construction debris, are believed to have been disposed of on this property (PRC 1993). The landfill was closed and capped in the 1980s; no leachate was observed during a 1992 Ecology inspection. Ecology believes that it is doubtful that any contaminants are reaching the waterway from the landfill (Mercuri 1992f).

Elf-Atochem Superfund Site

January 2, 1985

180,000 gallon tank collapsed spilling 175,000 gallons of sodium chlorate, sodium chloride, and sodium dichromate solution. 75,000 gallons remained unaccounted for and were presumed to have flown to the Hylebos Waterway through storm drains. (Penwalt Corp. Spill Response and Site Assessment)

Company fined $500,000 for negligently spilling toxic substances into the waterway and paid $600,000 into a trust to provide future protection of waterway. Three employees were initially charged but the charges were later dismissed. Plant manager Orval High was sentence to two years probation for two misdemeanor violations.

2901 Taylor Way- approval of low-level radiation waste storage. (HHPENC3CR010182)

3 sewers were contaminated with arsenic in 1981 and were later closed in 1986 (TDD F10-8708-19 Preliminary Assessment Report., Ecology and Environment, Inc.)

Arsenic-plugged sewer lines under Taylor Lake area were the transport pathway from the old Penite operations (Seep NW7). 4-143. Seeps along the waterway are considered the fourth pathway of waste to waterways. Sewers contributed 86% of arsenic total from all pathways. 5-17. Aware Report 1981. See Deposition of Richard E. Carlson, Exhibit 13.

NPDES Permit (DOE), February 22, 1991 (HHATOC4NPP022691)

Outfall included PAHs, PCBs, and metals

Arsenic contamination ended in 1986 when drain lines were blocked.

Arsenic Consent Decree (No. 87-2-01199-0) July, 1987.

Asbestos: flushed into 0.3-ac Asbestos pond. (See Aware, 1981)

Chlorinated Hydrocarbons: disposed of in on-site evaporation ponds (Taylor Lake Waste Treatment and Disposal Ponds)

Penite sludge: landfilled near Penite production area (contains sodium arsenite)(See Kennedy/ Jenkins/Chilton (1987b))

Herbicide/pesticide: disposed of on-site east of Agchem building. (Aware, 1981). (Letter to Mike Stoner at EPA re: location of waste disposal sites, July 3, 1989. (See document for references to other studies, and descriptions) (HHPENC1RIR063089)

Consent Decree No. 92 2 01756 1, DOE v. Elf Atochem, Thurston County, July 20, 1992.

To prevent future violation of outfall permit limiting temperature of outfall to 77 degrees because Elf Atochem threatened outfall of 84 degrees.

3009 Taylor Way- ASARCO slag disposed of on-site for 22 years ('64-86), 1000 tons of slag total (arguable) (Superior Court of Thurston County, Consent Decree, June 24, 1987, No. DE86- 5159)(HHPENC3CD062487). Property used as log sort yard from '64-86, and as a debarking operation from '84-86 (ENSR Consulting and Engineering, Feasibility Study Report December 1991, Doc. No. 5370-001-360).

40,000 cubic yards of wood waste. 30,000 cubic yards of fine wood waste containing arsenic concentrations in excess of 100mg/kg ("dangerous waste" according to Chapter 173-303 WAC if moved off-site). 1198 cubic yards of slag within upper five feet of soil column ("dangerous waste' if moved off-site). (Final Cleanup Action Plan, 3009 Taylor Way site, December 1991, HHPENC4CAP120091)

ASARCO slag deposited from '74-86 (probably typo, should say '64), 40,000 cubic yards of wood waste, woodwaste constitutes "dangerous waste" due to high arsenic concent. (Consent Decree, DOE v. Atochem, incl. ASARCO, 12-11-92, PRC HHATOC3CD121192)

Depositions:

Franklin Marvin 10/29/97

Discussion of mercury and its possible escape through sewer drains.
Discharge of hydrostatic test waste to Hylebos through sewers. p. 101
Discharge of spills from electrolytic cells to floor drains to Hylebos. p. 105
Numerous waste/coolant streams flowing to Hylebos. p.106-107.

Richard E. Carlson 10/28/97

DDT not formulated in Tacoma, just shipped there for reshipment. p.27
Formulation of pesticides used for testing in residue lab discharged to municipal sewerage system. p,.49-50.
Discharge of chlorine solution into sanitary sewer system which flowed to the municipal sewerage system. p.82.
Spill of caustics on Wypean side of line (high PH)? p.117.
Radioactive materials, animal wastes, drum of calcium arsenate stored at site (Exhibit 12). p. 119.
Parathion and methyl parathion disposed of on penite waste pit (1957). p. 124