

Property Review

Marine Vacuum Service

1516 S. Graham Street
Seattle, WA 98108

Prepared for

Toxics Cleanup Program
Northwest Regional Office
Washington State Department of Ecology
Bellevue, Washington

Prepared by



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General Facility Information

Facility Name: Marine Vacuum Service
Alternate Names: Mar-Vac
Facility Physical Address: 1516 S. Graham Street
Seattle, WA 98108
Facility Mailing Address: Same
Facility Telephone Number: 206-762-0240
Facility Owner: Marine Vacuum Service, Inc.
1516 S. Graham Street
Seattle, WA 98108
Facility Operator: Marine Vacuum Service, Inc.
Contact: Mark Salander
Property Owner: MV Transportation Inc.
Site Drainage: Sanitary sewer

Current Facility Information

Hazardous Waste ID Number: WAD980974521
UST Site ID: None
NPDES Permit Number: None
Metro Discharge Permit Number: 7676-03

Marine Vacuum Service provides onsite cleaning services for industrial tanks and marine vessel tanks and bilges. Oily-water mixtures are brought to the Marine Vacuum site for treatment in an oil/water separator system. Waste streams handled by Marine Vacuum include bilge water, tank cleaning wastewater, contaminated storm water, truck wash water, contaminated groundwater, oil/water separator wastewater, catch basin cleaning wastewater, wastewater from spill response, hydroblast water, boiler blowdown, and boiler maintenance water [71].

The 0.7-acre Marine Vacuum Service site is located in the Georgetown area of South Seattle, near the north end of Boeing Field (Figure 1). The site is approximately 4,000 feet from Slip 4. Land use surrounding the site is industrial and commercial. The Union Pacific Railroad tracks are located to the south of the site; North Coast Chemical is to the east.

Site drainage is collected, treated on site through the facility's pretreatment system, and discharged to the sanitary sewer [71].

Pollutants in the wastewaters treated at the site include heavy metals; non-polar fats, oil, and grease (FOG); and those volatile and semivolatile organic compounds associated with fuels and oil. All wastes run through a pretreatment system: pH adjustment, polymer addition, sand

filtration, and carbon filtration [71]. The recovered oil is marketed for energy recovery and the water is discharged to the Metro sewer system under a waste discharge permit (No. 7676-3). Sludge is pumped to a storage area and is mixed with lime kiln dust, then sent to a solid waste facility for disposal. Occasionally, hazardous wastes are stored on site in drums, which are subsequently transported to hazardous waste treatment, storage, and disposal facility.

Ecology's UST database¹ did not list any underground storage tanks associated with current operations at this location. The facility is identified as a generator and transporter of hazardous waste.

Inspections

Marine Vacuum Service has been inspected by the Seattle Public Utilities & King County joint inspection team.² The following corrective measure was identified: improve or create spill response procedures. A follow-up visit was conducted on June 28, 2005, and the facility was found to be in compliance.

The facility has been inspected by King County Metro on numerous occasions subsequent to Marine Vacuum's waste discharge permit application dated February 14, 1985 [1]. A site inspection on August 30, 1985, indicated that Marine Vacuum had made a connection from the pre-treatment system (still under construction) to the City sewer without proper authorization or inspection [5]. A discharge permit was subsequently granted. Metro conducted numerous enforcement actions against Marine Vacuum Service over the next several years for discharge permit violations including exceedance of FOG discharge limits, discharge of wastewater without prior analysis, and failure to file self-monitoring reports [6, 19, 25, 51]. The pretreatment system and onsite laboratory were upgraded in late 1989. No subsequent discharge violations were noted in the files.

The site has been inspected by Ecology on numerous occasions, including March 18, 1987; June 10, 1987; October 6, 1989; October 25, 1989; January 30, 1991; January 14, 1998; November 23, 1999; and August 13, 2002. Investigations have consistently identified noncompliance issues at the site associated with improper waste storage, poor housekeeping, and practices resulting in contamination of soil [14, 17, 65, 68].

On August 1, 1988, Ecology identified Marine Vacuum Service as a potential hazardous waste site due to soil contamination resulting from the deliberate abandonment of a tank containing a flammable dangerous waste mixture [38].

The Marine Vacuum Service site underwent Washington Ranking Method scoring in 1990; the facility was assigned a ranking of "3" [52, 54].

A January 30, 1991, Ecology inspection identified an outdoor waste pile containing mixed regulated wastes [57]. A compliance letter was issued on March 25, 1991. Enforcement Order

¹ Ecology UST Site List, 2/8/2006

² King County and Seattle Public Utilities, Source Control Program for the Lower Duwamish Waterway, June 2005 Progress Report

DE 91SHW-N194 was issued on August 21, 1991; this order required Marine Vacuum to remove wastes from the pile and dispose of them properly, designate each waste stream and accumulate them separately, and investigate the former waste pile site for contamination to soil, groundwater, and surface water [59]. An August 21, 1992, letter from Ecology indicates that Marine Vacuum has satisfied the conditions of the enforcement order, which has been closed [62].

An Ecology inspection conducted on November 23, 1999, identified several compliance problems, including petroleum-stained soil, sheen on stormwater ponds, and other evidence of spilled petroleum; unsealed, cracked, and deteriorating floors in the waste accumulation and storage areas; inadequate secondary containment with evidence of spilling and accumulation of sludge or solids-contaminated oil/petroleum products; evidences of spills/discharges of oil or petroleum products in numerous areas of the facility; and a variety of other record-keeping and housekeeping issues. As of January 3, 2003, Ecology had not received a compliance certification from Marine Vacuum regarding the compliance issues noted during this inspection [69].

The most recent compliance assistance visit was conducted by Ecology on November 30, 2005. No violations, penalties, or enforcement actions have been identified within the past three years.

Past Site Use

Records indicate that Marine Vacuum Service initially leased the property from Union Pacific Railroad Company in an agreement dated February 28, 1984. The company moved its operations to the current site in 1985. On April 2, 1992, the property was purchased by MV Transportation Inc. Charles Campbell, one of the owners of Marine Vacuum Service, Inc., is also identified on the deed of trust as President of MV Transportation.

No information on site use prior to 1985 was available.

Spills and Releases

Ecology's LUST database does not list any releases from storage tanks at this location.³

Ecology's Confirmed and Suspected Contaminated Sites (CSCS) List⁴ indicates that site discovery occurred in early March 1988, with an initial site investigation completed by August 1, 1988. An independent interim action was conducted between July 1 and August 10, 1988. A Site Hazard Assessment was completed on August 15, 1990. A remedial action is listed as "in progress"; however, the information was last updated in May of 2003. Details are provided below where available.

In 1986, violations of the Metro discharge limitation for fats, oils, and grease (FOG) were noted and remedial action was requested. Heavy soil contamination in several locations of the site was

³ Ecology LUST Site List, October 5, 2006

⁴ Department of Ecology – Toxics Cleanup Program, Integrated Site Information System, Confirmed and Suspected Contaminated Sites List, October 5, 2006

noted by Ecology in a 1987 site inspection, which also revealed oil overlapping a tank at the north end of the site and leaving the site. Contamination included oil and petroleum products.

During March/April 1988, two abandoned underground storage tanks (USTs) were identified at the site. A 1,000-gallon tank was located near the shop building; this tank was removed and contents of the tank as well as surrounding soils were sampled. Contents of the tank included total petroleum hydrocarbons (TPH), methylene chloride, benzene, 1,1-dichloroethene (DCE), chloroform, and 1,1,1-trichloroethane (TCA) [28]. No evidence of soil contamination was found [23, 24]. A 2,000-gallon tank was located under a paved pad; this tank was also removed and contents and surrounding soils sampled. The tank contained TPH, benzene, DCE, chloroform, 1,2-dichloroethane (DCA), and TCA. Soils below this tank contained TPH (7,680 mg/kg), benzene (9.8 mg/kg), DCE (1.8 mg/kg), chloroform (2.0 mg/kg), TCA (1.0 mg/kg), naphthalene (44.8 mg/kg), anthracene (127 mg/kg), and low levels of other PAHs. The similarity of contaminants found in soil to the tank's contents confirms that releases from the tank had occurred.

Site activities noted during inspections above, including an open air waste pile potentially containing dangerous waste, poor housekeeping, and improper storage of hazardous wastes, likely resulted in numerous releases and spills over a period of several years. Many of these releases were noted in Ecology inspection reports, as described above.

Environmental Sampling and Remediation

In 1987, a sample of sludge generated by Marine Vacuum's wastewater treatment process was analyzed. It contained 100 mg/kg halogenated hydrocarbons, 0.13 mg/kg PCBs, and 1.05% polynuclear aromatic hydrocarbons (PAHs); Seattle-King County Department of Health refused to allow local landfill disposal of this material [16].

Kennedy/Jenks/Chilton conducted a remedial investigation for Marine Vacuum Service of the extent and nature of site contamination resulting from leaking USTs, which caused releases of petroleum wastes and/or flammable hazardous waste (see above) [50]. The remedial investigation report was not found in the files reviewed; however, the investigation appears to have been conducted in late 1989, and included installation of eight soil borings and three monitoring wells [46]. Excavation bottom/side samples indicated TPH at 28 mg/kg and benzene, toluene, ethylbenzene, and xylenes (BTEX) below detection. As of January 10, 1991, Ecology had not received the remedial investigation report [56]. It is unclear whether this is the independent remedial action identified on the CSCS list, as the dates do not match.

Marine Vacuum Service reportedly sampled the open waste pile (described above) and soils in the surrounding area in early 1991. No report of this investigation was in the files reviewed during preparation of this property summary; however, a March 2, 1992, Ecology memorandum indicates that the sludge did not designate as hazardous, and no contamination was detected in the surrounding area.

Sludge from the facility's treatment process was analyzed in March 2003 [70]. This sample contained 1,2-dichlorobenzene (0.24 mg/kg), naphthalene (29 mg/kg), 2-methylnaphthalene (86

mg/kg), acenaphthylene (1.2 mg/kg), acenaphthene (3.0 mg/kg), fluorene (8.8 mg/kg), and phenanthrene (18 mg/kg) at concentrations exceeding soil screening levels developed to protect against sediment recontamination.⁵

Potential for Sediment Recontamination

Inspections have shown a history of noncompliance with dangerous waste regulations at this site, including storing dangerous wastes in unlabeled containers, storing wastes out of doors and in open air piles with no permits to do so, mixing several waste streams together prior to designating the waste, and general housekeeping issues. In addition, inspections have noted cracked and deteriorating containment floors as well as evidence of spills throughout the facility.

Therefore, documented releases of contaminants of potential concern for sediment recontamination have occurred at this site. While some remediation of contaminated soil has occurred (e.g., removal of soil under the 2,000-gallon UST), it is likely that contaminants of concern, primarily PAHs, remain in soil. No information on groundwater contamination at the site was identified.

Since stormwater at this facility reportedly does not drain to Slip 4, the most likely pathway for contaminants of concern is via the groundwater pathway. Given the distance of this facility from Slip 4 (approximately 4,000 feet), however, it is considered unlikely that contaminants would be transported from the Marine Vacuum Service site to Slip 4.

The following data gaps have been identified:

- Reports of site investigations associated with removal of the 2,000-gallon UST and the sludge waste pile were unavailable for review. However, results appear to have been accepted by Ecology.
- No documentation or data from groundwater monitoring well installation or sampling were found in the files.
- The most recent Ecology compliance inspection was conducted in 2002; no recent information regarding current practices at this facility were available.

Although releases to soils have occurred at this site over a period of many years, the only potential pathway for sediment recontamination appears to be groundwater transport. Storm drainage at the facility is reportedly discharged to the sanitary sewer under a wastewater discharge permit. Assuming this is correct, and based on the facility's distance from Slip 4, this facility does not represent a significant risk of Slip 4 sediment recontamination. Confirmation that the facility currently does not discharge to the stormwater system would provide increased confidence in this assessment.

⁵ SAIC 2006. Draft Soil and Groundwater Screening Criteria, Source Control Action Plan, Slip 4, Lower Duwamish Waterway. Prepared for Washington State Department of Ecology. Prepared by Science Applications International Corporation (SAIC), Bothell, WA. August 2006.

Facility Name	Marine Vacuum Service, Inc.
Current Use	Industrial tank cleaning
Chemicals of Concern for Sediment Recontamination	PAHs
Pathways to Sediments	Groundwater
Data Gaps	Groundwater data; current facility practices

Documents Reviewed:

- [1] February 14, 1985 – Municipality of Metropolitan Seattle Industrial Waste Discharge Permit Application Form for Marine Vacuum Service, Inc.
- [2] February 26, 1985 – Notification of Dangerous Waste Activities.
- [3] July 23, 1985 – Letter from Linda Larson, Syrdal, Danelo, Klein & Myre, to Dan Kruger, Ecology, Re: Public Disclosure Request.
- [4] August 28, 1985 – Telephone log of conversation between Dick Blake, Seattle Engineering Department, and Bruce Burrow, Metro, Re: Status of City sewer connection at Marine Vacuum Service.
- [5] August 30, 1985 – Memo from Bruce Burrow, Metro, to File Re: Initial inspection of new MVS facility, 8/20/85.
- [6] December 31, 1986 – Letter from Douglas Hilderbrand, Metro, to Cheryl Wofford, Marine Vacuum Service, Re: Notice of enforcement action against Marine Vacuum Service.
- [7] December 31, 1986 – Letter from Douglas Hilderbrand, Metro, to Cheryl Wofford, Marine Vacuum Service, Re: Informal Compliance Schedule. December 31, 1986.
- [8] March 13, 1987 – Memo from Bruce Burrow, Metro, to Doug Hilderbrand, Metro, Re: Allegations regarding Marine Vacuum Service.
- [9] March 13, 1987 – Memo from Bruce Burrow, Metro, to Marine Vacuum Service, Re: Conversation with Paul Nikolaisen, Seattle DAS.
- [10] March 17, 1987 – Telephone log of conversation between John Freidel, Seattle DAS, and Bruce Burrow, Metro, Re: Discuss allegations being made about Marine Vacuum Service.
- [11] March 17, 1987 – Meeting log of conversation between Pat Raney, Federal Testing Labs, and Bruce Burrow, Metro, Re: Deliver MVS-supplied copies of lab reports from Federal Testing for verification.
- [12] March 18, 1987 – Memo from Bruce Burrow, Metro, to File, Re: Further information from informant.
- [13] March 18, 1987 – Department of Ecology Inspection Report.
- [14] March 24, 1987 – Letter from Norman Peck, Ecology, to Marine Vacuum Service, Re: Compliance Requirements Noted on Inspection of March 18, 1987.
- [15] May 20, 1987 – Analytical Report from Laucks Testing Laboratories, Inc.

- [16] June 8, 1987 – Letter from Wallace Swofford, Seattle-King County Department of Public Health, to Cheryl Wofford, Marine Vacuum Service, Re: Analysis of sludge sampling data.
- [17] June 10, 1987 – Department of Ecology Inspection Report.
- [18] October 27, 1987 – Letter from Vallana Piccolo, Metro, to Rodman Campbell, Marine Vacuum Service, Re: Reassignment of your Metro Permit.
- [19] November 2, 1987 – Letter from Elsie Hulsizer, Metro, to Rodman Campbell, Marine Vacuum Service, Re: Final Notice of Pending Penalty.
- [20] September 23, 1985 through November 30, 1987 – Uniform Hazardous Waste Manifests
- [21] March 18, 1988 – Notification of Dangerous Waste Activities.
- [22] March 21, 1988 – Certified Letter from Norman Peck, Ecology, to Philip Dovich, Marine Vacuum Service, Re: Inspection of March 16, 1988, Compliance Requirements.
- [23] April 1, 1988 – Letter from Philip Dovich, Marine Vacuum Service, to Norman Peck, Ecology, Re: Copy of Certification for work on Underground Tank.
- [24] April 11, 1988 – Letter from Philip Dovich, Marine Vacuum Service, to Norman Peck, Ecology, Re: Results of Underground Soil Sample.
- [25] April 18, 1988 – Letter from Vallana Piccolo, Metro, to Philip Dovich, Marine Vacuum Service, Re: Temporary Cease Discharge Order, Compliance Schedule, Interim Discharge Limits.
- [26] April 22, 1988 – Letter from Norm Peck, Ecology, to Philip Dovich, Marine Vacuum Service, Re: Underground Storage Tank Removal.
- [27] May 4, 1988 – Notes from site visit, Author Unknown (Ecology?)
- [28] May 11, 1988 – Analytical Laboratory Results, Sound Analytical Services, Inc.
- [29] May 18, 1988 – Analytical Results, EPA Region X Lab Management System.
- [30] May 31, 1988 – Certified letter from Elsie Hulsizer, Metro, to Charlie Campbell, Marine Vacuum Service, Re: Official Enforcement Action and Project Milestones.
- [31] June 9, 1988 – Letter from Vallana Piccolo, Metro, to Richard Koch, Ecology, Re: Waste Discharge Permit Application (document attached).
- [32] June 15, 1988 – Letter from Philip Dovich, Marine Vacuum Service, to Norman Peck, Ecology, Re: Test Results of Underground Tank Contents and Soil Sample (metals sampling results attached).
- [33] June 15, 1988 – Professional Engineering Report, Prepared by Gregory Allan, PE, Nuclear Fluids, Inc. for Marine Vacuum Service.
- [34] June 22, 1988 – Certified letter from Norman Peck, Ecology, to Philip Dovich, Marine Vacuum Service, Re: Reporting of Waste Characterization Data and Cleanup Requirements.
- [35] July 19, 1988 – Memorandum from Steve Burke, Seattle-King County Dept. of Public Health, Chemical/Physical Hazards Program, to Rod Hansen, King County Solid Waste Division, Re: Waste Material Cleared for Disposal at Cedar Hills Landfill.

- [36] July 26, 1988 – Letter from Doug Knutson, Ecology, to Vallana Piccolo, Metro, Re: Review of Professional Engineering Report.
- [37] July 28, 1988 – Certified letter from Norman Peck, Ecology, to Rodman Campbell, Marine Vacuum Service, Re: General Notice Letter of Site Contamination.
- [38] August 1, 1988 – Potential Hazardous Waste Site, Site Identification Form.
- [39] August 24, 1988 – Letter from Philip Dovich, Marine Vacuum Service, to Doug Knutson, Ecology, Re: Marine Vacuum's Plant Upgrade Supplemental Details.
- [40] October 4, 1988 – Letter from Gregory R. Allan, Nuclear Fluids, Inc., to Philip Dovich, Marine Vacuum Service, Re: Information for Metro Discharge Permit Application Professional Engineer's Report dated June 15, 1988.
- [41] January 26, 1989 – Letter from William Loffer, UPRR, to Carol Fleskes, Ecology Re: Marine Vacuum Service, Inc., Underground Storage Tanks.
- [42] February 7, 1989 – Progress Report. Submitted by Philip Dovich, Marine Vacuum Service, Inc., to Norm Peck, Ecology.
- [43] April 28, 1989 – Letter Lee Dorigan, Ecology, to WilliamL. Loffer, Union Pacific Railroad Co., Re: Marine Vacuum Service, Inc. Site Status.
- [44] July 21, 1989 -- Letter from Norm Peck, Ecology, to R. Campbell, Marine Vacuum Service, Re: Site contamination.
- [45] July 28, 1989 – Letter from Glynda Steiner, Kennedy/Jenks/Chilton, to Philip Dovich, Marine Vacuum Service, Re: Project Schedule, Subsurface Investigation, Marine Vacuum Service, Inc.
- [46] July 28, 1989 – Letter from Glynda Steiner, Kennedy/Jenks/Chilton, to Philip Dovich, Marine Vacuum Service, Re: Proposal to Conduct Subsurface Investigation.
- [47] July 31, 1989 – Letter from P. Dovich, Marine Vacuum Service, Inc., to Norm Peck, Washington Department of Ecology, Re: Site Assessment Plan, Project Schedule, Draft SPCC Plan
- [48] August 30, 1989 – Letter from R.D. Rice, Union Pacific Railroad Company, to R. Campbell, Marine Vacuum Service, Re: Ecology request for update.
- [49] September 28, 1989 – Letter from Norm Peck, Ecology, to R. Campbell, Marine Vacuum Service, Re: Monthly Updates.
- [50] September 29, 1989 – Monthly Progress Report, August and September 1989. Submitted by Philip Dovich, Marine Vacuum Service, Inc., to Norm Peck, Ecology.
- [51] October 17, 1989 – Letter from Elsie Hulsizer, Metro, to Philip Dovich, Marine Vacuum Service, Re: Formal Compliance Schedule for a discharge violation.
- [52] 1990 – Washington Ranking Method, Scoring and Calculation Sheets. Washington Department of Ecology.
- [53] June 27, 1990 – Marine Vacuum Service, Inc. Metro Pretreatment System Professional Engineer's Report. Prepared by Advanced Chemical Technologies, Inc.

- [54] August 29, 1990 – Letter from M.J. Gallagher, Ecology, to B. Loffer, UPRR, Re: Hazard Ranking for Marine Vacuum Service Site.
- [55] October 10, 1990 – Letter Harold A. Thoreen to N.D. Peck, Ecology, Re: Marine Vacuum Service, Inc.
- [56] January 10, 1991 – Letter from Norman Peck, Ecology, to Harold A. Thoreen, Re: Marine Vacuum Service.
- [57] July 10, 1991 – Memorandum from Josh Chaitin, Ecology, to Julie Sellick, Ecology, Re: Recommendation for Enforcement for Marine Vacuum Service, Inc., 1516 Graham St. Seattle, WA 98108, EPA ID# WAD980974521.
- [58] July 30, 1991 – Letter from Josh Chaitin, Ecology, to Todd Salamonsen, Marine Vacuum Service. Re: Management of regulated hazardous wastes in an open waste pile.
- [59] August 21, 1991 – Letter from Mary Kautz, Ecology, to Marine Vacuum Service, Inc.
- [60] August 22, 1991 – ERT System, Initial Report/Followup. Washington Department of Ecology.
- [61] March 2, 1992 – Memorandum from Josh Chaitin, Ecology, to Marian Kekahuna, Ecology. Re: Enforcement Order DE-91HS-N194.
- [62] August 21, 1992 – Letter from Julie Sellick, Ecology, to Todd Solamonsen, Marine Vacuum Service, Inc. Re: Enforcement Order DE-91SHW-N194.
- [63] July 21, 1997 – Ecology ERT System Referral.
- [64] January 4, 1998 – Ecology Initial Investigation Field Report, Marine Vacuum Service.
- [65] November 23, 1999 – Ecology Hazardous Waste & Toxics Reduction Program Compliance Report.
- [66] January 24, 2000 – Letter from Robert Stone, Ecology, to Mark Salander, Marine Vacuum, Re: Dangerous Waste Compliance Inspection at Marine Vacuum.
- [67] May 24, 2001 – Issuance of Wastewater Discharge Permit No. 7676-02 to Marine Vacuum Service, Inc. by the King County Department of Natural Resources. Industrial Waste Program.
- [68] August 13, 2002 – Hazardous Waste & Toxics Reduction Program Compliance Report. Marine Vacuum Service, RCRA ID# WAD980974521.
- [69] January 23, 2003 – Facsimile from Ecology to Mark Salander, Marine Vacuum Service.
- [70] March 19, 2003 – Letter from Blair Goodrow, OnSite Environmental, Inc., to Mark Salander, Marine Vacuum Service.
- [71] March 12, 2004 – Issuance of Waste Discharge Permit No. 7676-03 to Marine Vacuum Service, Inc. by the King County Department of Natural Resources and Parks.

Figure 1
Site Location: Marine Vacuum Service

