FINAL Third Periodic Review
Louisiana Pacific Corp
(aka Pony Lumber Company LLC)

3701 Taylor Way, Tacoma, Pierce County, 98421
Facility Site ID: 1209, Cleanup Site ID: 2317

Toxics Cleanup Program, Southwest Region

Washington State Department of Ecology
Lacey, Washington

February 2025

Document Information

This document is available on the Department of Ecology's Louisiana Pacific Corp cleanup site page.[1]

Related Information

- Facility Site ID: 1209
- Cleanup Site ID: 2317

Contact Information

Toxics Cleanup Program

Southwest Regional Office
Danielle Gibson, Uniform Environmental Covenants Act (UECA) Coordinator
P.O. Box 47775
Olympia, WA 98504
Email: danielle.gibson@ecy.wa.gov
Phone: 360-409-6164

Website: Washington State Department of Ecology[2]

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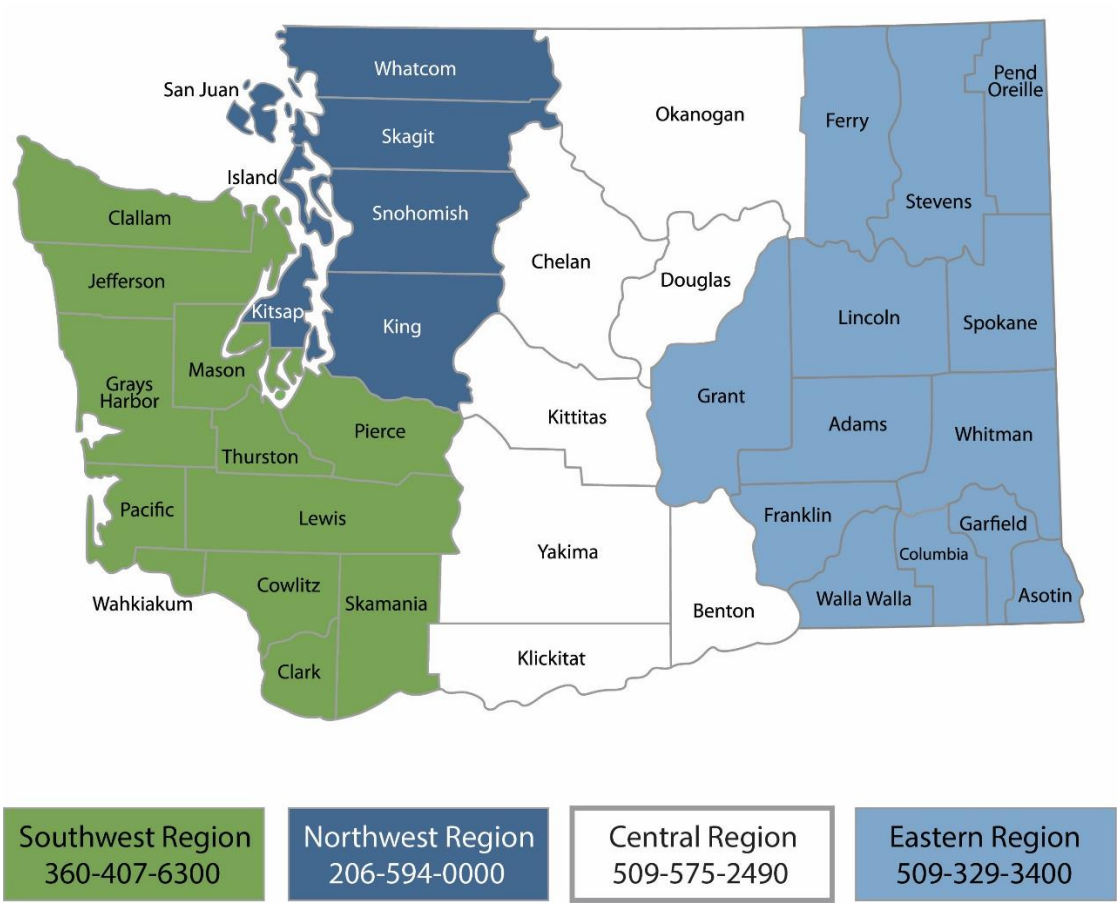
[1] https://apps.ecology.wa.gov/cleanupsearch/site/2317
[2] https://ecology.wa.gov/About-us/Who-we-are/Our-Programs/Toxics-Cleanup
[3] https://ecology.wa.gov/About-us/Accountability-transparency/Our-website/Accessibility

Department of Ecology's Regional Offices

Map of Counties Served



Southwest Region 360-407-6300	Northwest Region 206-594-0000	Central Region 509-575-2490	Eastern Region 509-329-3400

Region	Counties served	Mailing Address	Phone
Southwest	Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Mason, Lewis, Pacific, Pierce, Skamania, Thurston, Wahkiakum	PO Box 47775 Olympia, WA 98504	360-407-6300
Northwest	Island, King, Kitsap, San Juan, Skagit, Snohomish, Whatcom	PO Box 330316 Shoreline, WA 98133	206-594-0000
Central	Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan, Yakima	1250 W Alder St Union Gap, WA 98903	509-575-2490
Eastern	Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, Whitman	4601 N Monroe Spokane, WA 99205	509-329-3400
Headquarters	Across Washington	PO Box 46700 Olympia, WA 98504	360-407-6000

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Introduction

The Washington State Department of Ecology (Ecology) reviewed post-cleanup site conditions and monitoring data to ensure human health and the environment are being protected at the Louisiana Pacific Corp cleanup site (Site). Site cleanup was implemented under the Model Toxics Control Act (MTCA) regulations, Chapter 173-340 Washington Administrative Code (WAC). This is the third periodic review conducted for this Site. Ecology completed the first and second periodic reviews in December 2011 and November 2016, respectively.

Cleanup activities at this Site were completed under an enforcement order. Residual concentrations of arsenic and lead in soil that exceeded MTCA cleanup levels remain on the property. The MTCA cleanup levels for soil are established under WAC 173-340-745[4]. The cleanup levels for groundwater and surface water are based on the U.S. Environmental Protection Agency's (EPA) marine chronic water quality criteria.

Ecology determined institutional controls in the form of a restrictive covenant would be required as part of the cleanup action for the Site. WAC 173-340-420(2)[5] requires Ecology to conduct a periodic review of certain sites every five years. For this Site, a periodic review is required because the department approved cleanup actions under an enforcement order and institutional controls are required as part of the cleanup action.

When evaluating whether human health and the environment are being protected, Ecology must consider the following factors (WAC 173-340-420(4)):

a) The effectiveness of ongoing or completed cleanup actions, including the effectiveness of engineered controls and institutional controls in limiting exposure to hazardous substances remaining at the site;

b) New scientific information for individual hazardous substances or mixtures present at the site;

c) New applicable state and federal laws for hazardous substances present at the site;

d) Current and projected site and resource uses;

e) The availability and practicability of more permanent remedies; and

f) The availability of improved analytical techniques to evaluate compliance with cleanup levels.

[4] https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-745
[5] https://app.leg.wa.gov/wac/default.aspx?cite=173-340-420

Summary of Site Conditions

Site description and history

The Site is located at 3701 Taylor Way in Tacoma, Pierce County, Washington and encompasses approximately 18 acres of land in an industrial area with the Hylebos Creek to the northeast; a railroad line and State Route 509 to the southeast; a railroad line and Taylor Way to the southwest; and industrial properties to the northwest.

Beginning in 1968, Louisiana Pacific Corp used the Site as a log yard (Windward Environmental LLC [Windward] 2017). Between 1968 and 1969, smelter slag from the American Smelting and Refining Company (ASARCO) was used as fill on the Site to stabilize the ground for machinery (Maul Foster & Alongi, Inc. [MFA] 2022). Ecology issued Enforcement Order No. DE 92TC-S312 for the Site in 1992. Later in 1993, a restrictive covenant was recorded for the property. Following the installation of a cap, the Site received a No Further Action determination in 1997.

Pony Lumber Company purchased the Site in 2004 and then sold it to the Port of Tacoma (Port) in 2006 (MFA 2022). Pony Lumber Company continued to operate at the Site under a lease agreement with the Port and continued to meet the obligations of the enforcement order until the lease ended in September 2008. With the termination of the lease, enforcement order responsibilities passed on to the Port. The Site is no longer used as a log sorting yard. Currently the Site is leased by Wallenius Wilhelmsen Solutions for equipment storage.

A vicinity map is in Appendix A, and a Site plan is in Appendix B.

Site investigations

During 1983 and 1984, Ecology conducted a survey of log yards, including the Site, as possible sources of metal contamination in Commencement Bay sediments. Water samples were collected in December 1983 from three locations and in June 1984 from four additional locations along the perimeter of the Louisiana Pacific Corporation log sort yard. Sample results indicated elevated concentrations of arsenic, copper, lead, and zinc. Ecology determined that leachate from the ASARCO slag was the source of these metals and that the Site was contributing to contamination in Hylebos Creek and Hylebos Waterway via stormwater runoff from the Site.

In 1987, Ecology issued an order which required a Site investigation, groundwater investigation and feasibility study. These studies were conducted by CH2M-Hill in 1987. Following the feasibility study, Ecology prepared an addendum containing Ecology's preferred cleanup alternative which involved capping the Site.

In 1990, Ecology issued Remedial Action Order No. DE 90-S170. This order required Louisiana Pacific Corporation to evaluate the expected effectiveness of capping as a cleanup method, to conduct subgrade testing of the Site, and to perform a structural analysis and prepare a cap design.

Cleanup actions

In 1992, a Cleanup Action Plan (CAP) was issued by Ecology describing the proposed remedial action for the Site. Later in 1992, Ecology issued Enforcement Order No. DE 92TC-S312. The order required Louisiana Pacific Corporation to perform remedial actions as specified in the final CAP and attached scope of work including:

1. Installation and maintenance of a cap over the Site.
2. Installation and maintenance of a runoff collection system.
3. Installation, operation, and maintenance of a sedimentation basin or comparable treatment unit.
4. Installation, operation, and maintenance of an oil/water separator or comparable treatment unit.
5. Implementation of best management practices (BMPs) including regular sweeping of bark and wood waste debris, cleaning and maintenance of the oil/water separator and sedimentation basin or comparable units, cleaning of sediment accumulation in sumps and in depressions adjacent to sumps, and removal of soil from sumps.
6. Placement of land use restrictions on the property deed to prohibit disturbance of the cap and exposure to contaminated soil/slag under the cap.

The cap was designed to prevent stormwater from percolating into the slag and leaching metal contaminants into the Hylebos Waterway. Components were integrated into the cap to divert stormwater off the cap surface and into a stormwater drainage system. Stormwater is collected in six treatment basins on the log yard cap and passed through an oil/water separator before entering the Hylebos Waterway.

Cap construction began in 1993. Once a grade was established across the Site to promote stormwater drainage, geotextile material was installed over the entire log yard. The geotextile was covered in two 24-inch lifts of compacted crushed ballast. A leveling course of 3-inch to 5/8-inch crushed rock was placed on top of the ballast. A reinforced concrete cap was placed in 9-inch and 7-inch lifts on top of the leveling course.

Groundwater monitoring and cap maintenance

As required by the final CAP and the Site Operations and Maintenance Plan, regularly scheduled groundwater monitoring has been conducted at the Site since 1995 at four groundwater monitoring wells (LP-1, LP-2, LP-4, and LP-5). Sampling was conducted quarterly from 1995 until 1997. Beginning in 1998, Ecology approved a reduction in groundwater sampling frequency. Groundwater sampling frequency was reduced from quarterly to annually, and it was alternated between the wet season and the dry season each year. In October 2000, Ecology approved reducing the groundwater sampling frequency from annually to biennially (once every two years), alternating wet and dry season monitoring every sampling event. The required groundwater sampling events were not conducted in 2004 and 2006.

Ecology and the Port entered into a Memorandum of Understanding (MOU) on September 12, 2011. The intention of the MOU was to standardize groundwater monitoring frequency and cap inspections among five sites with similar contaminants. Per this MOU, the Port is required to conduct groundwater monitoring and cap inspections on a 30-month frequency, which is the current required frequency at the time of this periodic review.

Following the implementation of the above MOU, groundwater sampling has been conducted at the Site in February to March 2012, September 2014, February 2017, August 2019, February 2022, and August 2024.

Between 1995 and 2002, concentrations of copper in groundwater exceeded the cleanup level in three samples from monitoring well LP-1, two samples from LP-2, nine samples from LP-4, and three samples from LP-5. Concentrations of zinc exceeded the cleanup level in two samples collected in October 1999, one from monitoring well LP-1 and one from monitoring well LP-5. Copper and zinc did not exceed their cleanup levels in 2007, 2008, or 2010. Between 1995 and 2010, lead was not detected at a concentration exceeding the cleanup level in any well. In June 2011, Ecology approved discontinuing the monitoring of lead, zinc, and conventional test parameters, requiring the monitoring of arsenic and copper only.

During the February to March 2012 sampling event, only dissolved copper (13 micrograms per liter [µg/L]) exceeded the cleanup level of 2.9 µg/L in one well (LP-1), whereas dissolved arsenic concentration did not exceed the cleanup level in any well. Both dissolved arsenic and copper concentrations were either below the cleanup levels or below the laboratory detection limits in all monitoring wells during the September 2014, February 2017, August 2019, February 2022, and August 2024 sampling events (MFA 2024).

It should be noted that monitoring well LP-2 was not sampled during the February 2017 sampling event as the well was found to be damaged with the polyvinyl chloride (PVC) casing pulled upward approximately 3 inches (Landau Associates, Inc. [LAI] 2017). However, LP-2 was sampled during the August 2019, February 2022, and August 2024 sampling events.

The most recent inspection of the environmental cap and drainage systems was performed by MFA on February 24, 2022, and included (MFA 2022):

- Inspection of the asphalt/concrete pavement for presence of cracks or other failures in the pavement that allow surface water runoff to infiltrate the bark/slag surficial fill (e.g., cracks greater than 1/8-inch wide, sub-base material exposed, pavement edge deterioration, and general appearance).
- Evaluation of the structural and functional condition of the cap and drainage systems (including catch basins, manholes, and oil/water separators).
- Evaluation of debris/sediment accumulation in the stormwater structures (if visible).

MFA observed the following cap conditions:

- Cracks wider than 1/8-inch were observed across the equipment storage area.

- Seventeen areas of curb damage were observed along the cap edge.
- Exposed subbase was observed in one area with cap erosion.
- General wear of the slurry seal was observed across the Site.

MFA made the following recommendations based on the 2022 inspection:

- Repair curb with breaks through vertical profile.
- Seal cracks identified for repair.
- Fill the void beneath the concrete slab at one location.
- Repair concrete at one location. The location was not accessible in 2022, but based on Site knowledge, it had not been repaired since it was observed in 2019.

MFA also inspected the stormwater drainage system consisting of four catch basins, 19 maintenance holes, two oil/water separators, and six treatment basins. MFA made the following recommendations based on the 2022 inspection:

- Remove garbage and debris from one maintenance hole.
- Restore accessibility/grate fit of one catch basin.
- Remove sediment accumulation from eight maintenance holes.
- Remove floating materials and organic sheen from maintenance holes.
- Remove debris, sediment accumulation, and vegetation growth from treatment basins.
- Replace damaged and/or missing screens from treatment basins.
- Repair curb of one treatment basin and replace debris screen in front of gate.
- Clear vegetation from suspected location of one maintenance hole to facilitate future inspection.
- Replace filter inserts in all catch basins.
- Pump out oil/water separators and have inspected for corrosion.

The cap inspection noted most of the damaged asphalt was in portions of the Site used for heavy equipment. The slurry seal showed signs of wear and damage consistent with the previous inspection and appeared to be the result of heavy equipment usage. Cracking wider than 1/8-inch was observed parallel to rows of equipment. Although these were previously sealed, the sealant had worn to the point where there was visible unsealed gapping. Seventeen sections of curb were observed to be damaged. Two areas of erosion were also observed near the cap edge.

Per an email from the Port on March 6, 2024, extensive crack sealing was performed in accessible areas of the cap in October 2023 to address MFA's recommendations from the 2022 cap inspection as noted above. The Port also noted in a follow up email on March 11, 2024, that curb and concrete repairs were completed in a previous year and erosion around the concrete

slab noted during MFA's inspection was addressed as part of another project to repair a leaking stormwater drainpipe. Maintenance of the stormwater drainage system is the responsibility of the tenant on the Site.

Cleanup standards

Cleanup standards include cleanup levels, the location where these cleanup levels must be met (point of compliance), and any other regulatory requirements that apply to the Site. WAC 173-340-704[6] states MTCA Method A may be used to establish cleanup levels at sites that have few hazardous substances, are undergoing a routine cleanup action, and where numerical standards are available for all indicator hazardous substances in the media for which the Method A cleanup level is being used. Method B may be used at any site and is the most common method for setting cleanup levels when sites are contaminated with substances not listed under Method A. Method C cleanup levels may be used to set soil and air cleanup levels at industrial sites.

MTCA Method A cleanup levels for industrial land use were determined to be appropriate for contaminants in soil at this Site. The cleanup actions conducted at the Site were determined to be routine, few hazardous substances were found at the Site, and numerical standards were available in the MTCA Method A table for each hazardous substance.

EPA's marine chronic water quality criteria was determined to be appropriate for contaminants in groundwater and surface water at the Site. Groundwater at the Site cannot be used for drinking water due to salinity. Cleanup levels for soil, groundwater, and surface water are listed in Table 1.

The 1990 Remedial Action Order defines the points of compliance for the Site. Since contaminated soil is contained on Site under a cap, requirements of WAC 173-340-740(6)(d)[7] must be met which establishes the point of compliance in soils to be throughout the Site from ground surface to 15 feet below ground surface. This represents a reasonable estimate of the depth of soil that could be excavated and distributed at the soil surface as a result of Site development activities.

The Site has a conditional point of compliance for groundwater, which was established at the edge of the property boundary. For any areas where the property boundary extends into the waterway, the conditional point of compliance will be as close as practicable to the land/water interface between groundwater and surface water or as provided in Chapter 173-340 WAC.

Restrictive Covenant

Ecology determined that institutional controls would be required as part of the cleanup action to document the remaining contamination, protect the cleanup action, and protect human

[6] https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-704
[7] https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-740

health and the environment. In 1993, institutional controls in the form of a restrictive covenant[8] (Covenant) were recorded for the Site.

The Covenant recorded for the Site imposes the following limitations:

1. The Site may be used only for industrial uses as defined in and allowed under the City of Tacoma's Zoning Regulations codified in the Tacoma City Code as of the date of the restrictive covenant. Except as provided in item #4 below.
2. Any activity on the Site that may interfere with or reduce the effectiveness of the cleanup action or any operation, maintenance, monitoring, or other activity required by the order (or any Ecology-approved modification or amendment to the order) is prohibited. Any activity on the Site that may result in the release of a hazardous substance that was contained as a part of the cleanup action is prohibited. The Ecology project coordinator must be informed in writing two weeks prior to any Site activity which might be inconsistent with this.
3. The owner of the Site must give written notice to Ecology, or to a successor agency, of the owner's intent to convey an interest in the Site. No conveyance of title, easement, lease, or other interest in the Site shall be consummated by the owner without adequate and complete provision for the continued operation, maintenance, and monitoring of the cleanup action.
4. The owner must notify and obtain approval from Ecology, or from a successor agency, prior to any use of the Site that may be inconsistent with the terms of the restrictive covenant. Ecology, or its successor agency, may approve such a use only after public notice and comments.
5. The owner shall allow authorized representatives of Ecology, or of a successor agency, the right to enter the Site at reasonable times for the purpose of evaluating compliance with the CAP and the order, to take samples, to inspection cleanup actions conducted at the Site, and to inspect records that are related to the cleanup action.
6. The owner of the Site and owner's assigns and successors in interest reserve the right under WAC 173-340-730 and WAC 173-340-440 to record an instrument which provides that the restrictive covenant shall no longer limit the use of the Site or be of any further force or effect. However, such an instrument may be recorded only with the consent of Ecology or of a successor agency. Ecology or a successor agency may consent to the recording of such an instrument only after public notice and comment.

[8] https://apps.ecology.wa.gov/cleanupsearch/document/83442

Periodic Review

Effectiveness of completed cleanup actions

During the Site visit conducted on February 14, 2024, Ecology found no indications that the integrity of the cleanup action has been compromised. The Site is currently leased by Wallenius Wilhelmsen Solutions for equipment storage. A photo log is in Appendix C.

Direct contact

The cleanup actions were intended to eliminate exposure to contaminated soil and groundwater at the Site. Exposure pathways to contaminated soils by ingestion and direct contact were reduced by installation of a cap over the entire Site. The cap appears to be in satisfactory condition, and no repair, maintenance, or contingency actions are required at this time. Evidence of previous repairs completed in 2023 were observed during the Site visit. Minor cracking was also observed during the Site visit which should be evaluated during the next cap inspection event.

As per the requirements of the 2011 MOU, groundwater sampling and cap inspections continue to be conducted at the Site every 30-months. Groundwater at the Site cannot be used for drinking water due to salinity. However, groundwater discharges to the Hylebos Waterway and Hylebos Creek and therefore, must be of a quality which will maintain acceptable sediment and water quality. The results of latest sampling event in August 2024 indicated that concentrations of arsenic and copper did not exceed cleanup levels.

Analytical results for groundwater sampling conducted between 1995 and 2024 are presented in Tables 2 through 5. Trend plots depicting arsenic and copper concentrations over time are presented in Figures 1 and 2, respectively.

The next groundwater sampling event is due in February 2027.

Institutional controls

Institutional controls in the form of a Covenant were implemented at the Site in 1993. The Covenant remains active and discoverable through the Pierce County Auditor. Ecology found no evidence a new instrument has been recorded that limits the effectiveness or applicability of the Covenant. This Covenant prohibits activities that will result in the release of contaminants contained as part of the cleanup action and prohibits any use of the property that is inconsistent with the Covenant, unless approved by Ecology in advance. This Covenant ensures the long-term integrity of the cleanup action will be protected.

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

There is no new relevant scientific information for the hazardous substances remaining at the Site.

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

The cleanup at the Site was governed by Chapter 173-340 WAC (1992 ed.). WAC 173-340-702(12) (c) [2023 ed.] provides that,

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

The current MTCA Method A cleanup level for arsenic has been reduced from 200 milligrams per kilogram (mg/kg) to 20 mg/kg since the final enforcement order was issued. Because contaminated soils at the Site have been capped, the modification to the MTCA cleanup level does not represent an increase in risk to human health or the environment.

Several of the EPA marine chronic water quality criteria have also changed since the enforcement order was issued. The criteria for copper increased from 2.9 µg/L to 3.1 µg/L. The criteria for lead decreased from 8.5 µg/L to 8.1 µg/L. The criteria for zinc decreased from 86 µg/L to 81 µg/L. A review of more recent groundwater data from 2007 to 2010 indicates the values for lead and zinc have not been exceeded. Overall, the changes to the original standards have not resulted in the need for additional remedial actions at the Site.

Current and projected Site and resource uses

The Site is used for industrial purposes. Currently the Site is leased by Wallenius Wilhelmsen Solutions for equipment storage. There are no projected future Site or resource use changes. The current Site use is not likely to have a negative impact on the protectiveness of the cleanup action.

Availability and practicability of more permanent remedies

The remedy implemented included containing hazardous substances, and it continues to be protective of human health and the environment. While more permanent remedies may be available, they are still not practicable at this Site.

Availability of improved analytical techniques to evaluate compliance with cleanup levels

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

Conclusions

- The cleanup actions completed at the Site appear to be protective of human health and the environment.
- Soil cleanup levels have not been met at the Site; however, the cleanup action is determined to comply with cleanup standards under WAC 173-340-740(6)(f), since the long-term integrity of the containment system is ensured and the requirements for containment technologies have been met.
- Groundwater monitoring is required on a 30-month frequency. Results from the monitoring conducted in 2024 indicates all contaminants of concern are below cleanup levels.
- The Covenant for the property is in place and is effective in protecting human health and the environment from exposure to hazardous substances and protecting the integrity of the cleanup action.
- The cap appears to be in satisfactory condition, and no repair, maintenance, or contingency actions are required at this time. Minor cracking was observed during the Site visit which should be evaluated during the next cap inspection event.

Based on this periodic review, Ecology has determined the requirements of the Covenant are being followed. No additional cleanup actions are required by the property owner at this time. The property owner is responsible for continuing to inspect the Site to ensure the integrity of the cap is maintained and to continue groundwater monitoring.

Next review

Ecology will schedule the next review for the Site five years from the date of this periodic review. If additional cleanup actions or institutional controls are required, the next periodic review will be scheduled five years after those activities are completed.

References

Landau Associates, Inc. (LAI). 2017. Groundwater Monitoring Results, Former Louisiana Pacific/Pony Lumber Facility, Port of Tacoma, Washington, Enforcement Order No. DE 92TC-S312, Department of Ecology Facility ID# 1209, Landau Project No. 0118035.010.015. March.

Maul Foster & Alongi, Inc. (MFA). 2022. Environmental Cap and Drainage System Inspection Report, Former Louisiana Pacific/Pony Lumber Site, Enforcement Order No. DE 92TC-S312, Washington State Department of Ecology Facility Site ID # 1209, Inspection Date: February 24, 2022.

MFA. 2024. Groundwater Monitoring Report, Former Louisiana Pacific/Pony Lumber Facility, Enforcement Order No. DE 92TC-S312, Facility Site ID: 1209, Monitoring Date: August 14, 2024. October 17.

Washington State Department of Ecology (Ecology). 1990. Remedial Action Order No. DE 90-S170. May.

Ecology. 1992. Enforcement Order No. DE 92TC-S312. December.

Ecology. 1997. “No Further Action Determination.” August 15.

Ecology. 2011. Periodic Review, Pony Lumber Company (aka Louisiana-Pacific Corporation) Facility Site ID#: 1209. December.

Ecology. 2016. Second Periodic Review, Louisiana Pacific Corporation (aka Pony Lumber Company), Facility Site ID#: 1209, Cleanup Site ID#: 2317. November.

Ecology. 2024. Site visit. February 14.

Windward Environmental LLC (Windward). 2017. Environmental Cap Inspection Report, Former Louisiana Pacific/Pony Lumber Facility. March 31.

Tables

Table 1. Cleanup levels for soil, groundwater, and surface water contaminants.

Contaminant	Soil Cleanup Level (mg/kg)[1]	Groundwater Cleanup Level (µg/L)[2]	Surface Water Cleanup Level (µg/L)[2]
Arsenic	200	36	36
Copper	NA	2.9	2.9
Lead	1,000	8.5	8.5
Zinc	NA	86	86

Notes:

[1] Soil cleanup levels are the MTCA Method A cleanup levels for industrial land use available at the time when the 1992 enforcement order was issued.

[2] Groundwater and surface water cleanup levels are the EPA's marine chronic water quality criteria available at the time when the 1992 enforcement order was issued.

µg/L = micrograms per liter

mg/kg = milligrams per kilogram

MTCA = Model Toxics Control Act

NA = not applicable

Table 2. Groundwater contaminant concentrations at monitoring well LP-1.

Date	Sample Type	Dissolved Arsenic (µg/L)	Dissolved Copper (µg/L)	Dissolved Lead (µg/L)	Dissolved Zinc (µg/L)
03/22/1995	N	10 U	**3**	3 U	20 U
06/21/1995	N	4.6	1.9	1 U	3
09/25/1995	N	5 U	1.4	3 U	20 U
12/28/1995	N	5 U	10 U*	3 U	50
04/19/1996	N	5 U	**3**	3 U	10 U
06/27/1996	N	10 U	2 U	8 U	10 U
11/25/1996	N	5 U	2 U	2 U	5 U
12/17/1996	N	200 U*	20 U*	50 U*	20 U
03/28/1997	N	10 U	2 U	8 U	80 U
07/09/1997	N	1 U	1 U	0.5 U	9.4
09/26/1997	N	2.7	1 U	0.5 U	4.3
12/18/1997	N	3.3	1.8	0.5 U	5.6
06/30/1998	N	4.2	1 U	0.5 U	2 U
10/22/1999	N	1.7	1.3	1 U	**170**
08/01/2000	N	1.8	1.6	ND	4
02/02/2002	N	ND	**4.01**	ND	14.9
07/07/2007	N	1 U	2 U	1 U	10 U
07/07/2007	FD	1 U	2 U	1 U	10 U
05/08/2008	N	ND	ND	ND	ND
05/08/2008	FD	ND	ND	ND	ND
09/16/2010	N	0.5 U	0.5 U	0.5 U	2.7
03/05/2012	N	0.5 U	**13**	--	--
09/06/2014	N	1 U	1 U	--	--
09/06/2014	FD	1 U	1 U	--	--
02/16/2017	N	0.4	0.5 U	--	--
08/21/2019	N	0.337	0.5 U	--	--
02/17/2022	N	0.382	0.339 J	--	--
02/17/2022	FD	0.370	0.262 J	--	--
08/14/2024	N	0.487	0.180 U	--	--
08/14/2024	FD	0.460	0.180 U	--	--

Notes:
Highlighted, red bold text = exceedance of the cleanup level
* Reporting limits for these analytes are elevated above the associated cleanup level.
-- = not analyzed U = result is non-detect at the reporting limit
µg/L = micrograms per liter
FD = field duplicate
J = estimated value
LP = Louisiana Pacific
N = normal environmental sample
ND = non-detect, reporting limit value is unknown

Table 3. Groundwater contaminant concentrations at monitoring well LP-2.

Date	Sample Type	Dissolved Arsenic (µg/L)	Dissolved Copper (µg/L)	Dissolved Lead (µg/L)	Dissolved Zinc (µg/L)
03/22/1995	N	10 U	2 U	3 U	20 U
06/21/1995	N	4.6	1.3	1 U	5.8
09/25/1995	N	5 U	**43**	5.8 U	20 U
12/28/1995	N	5 U	10 U*	3 U	20 U
03/28/1996	N	10 U	2 U	8 U	20 U
06/27/1996	N	10 U	2 U	8 U	10 U
11/25/1996	N	5 U	2 U	2 U	5 U
12/17/1996	N	200 U*	20 U*	50 U*	20 U
07/09/1997	N	1 U	1 U	0.74	18
09/26/1997	N	3.7	1 U	0.5 U	3
12/18/1997	N	1.5	2	0.5 U	2.8
06/30/1998	N	4.2	1.3	0.5 U	2 U
10/22/1999	N	2.5	1 U	1 U	86
08/01/2000	N	1	1	0.5	4
02/02/2002	N	2.58	**35.5**	3.87	78.5
07/07/2007	N	1 U	2 U	1 U	10 U
05/08/2008	N	ND	ND	ND	ND
09/16/2010	N	0.5 U	0.5 U	0.5 U	4.0
02/16/2012	N	0.5 U	1.8	--	--
09/06/2014	N	1 U	1 U	--	--
08/21/2019	N	1.2	0.69	--	--
08/21/2019	FD	1.09	0.582	--	--
02/17/2022	N	1.82	0.526	--	--
08/14/2024	N	1.16	0.530	--	--

Notes:
Highlighted, red bold text = exceedance of the cleanup level
* Reporting limits for these analytes are elevated above the associated cleanup level.
-- = not analyzed
µg/L = micrograms per liter
FD = field duplicate
LP = Louisiana Pacific
N = normal environmental sample
ND = non-detect, reporting limit value is unknown
U = result is non-detect at the reporting limit

Table 4. Groundwater contaminant concentrations at monitoring well LP-4.

Date	Sample Type	Dissolved Arsenic (µg/L)	Dissolved Copper (µg/L)	Dissolved Lead (µg/L)	Dissolved Zinc (µg/L)
03/22/1995	N	10 U	**5**	3 U	20 U
06/21/1995	N	6.9	**5.9**	1 U	18
09/25/1995	N	7.1	**22**	4.6	20 U
12/28/1995	N	2 U	**5**	1 U	20 U
03/28/1996	N	10 U	2 U	8 U	20 U
06/27/1996	N	10 U	**4**	8 U	10 U
11/25/1996	N	5 U	**4**	4	7
12/17/1996	N	200 U*	20 U*	50 U*	20 U
03/28/1997	N	10 U	**4**	8 U	80 U
07/09/1997	N	2.9	1.7	0.55	27
09/26/1997	N	7.6	2	0.5 U	6.6 U
12/18/1997	N	7.3	**6.2**	0.5 U	10
06/30/1998	N	3.3	2.5	0.5 U	2 U
10/22/1999	N	1.8	1 U	1 U	75
08/01/2000	N	1	1	0.5	4
02/02/2002	N	5.54	**6.05**	1.04	10.4
07/07/2007	N	4	2	1 U	10 U
05/08/2008	N	ND	ND	ND	ND
09/16/2010	N	0.5 U	0.8	0.5 U	5.5
03/05/2012	N	0.5	0.5 U	--	--
09/06/2014	N	1.7	2	--	--
02/16/2017	N	0.421	0.984	--	--
08/21/2019	N	2.800	0.349 J	--	--
02/17/2022	N	0.193 J	0.894	--	--
08/14/2024	N	0.291 J	0.786	--	--

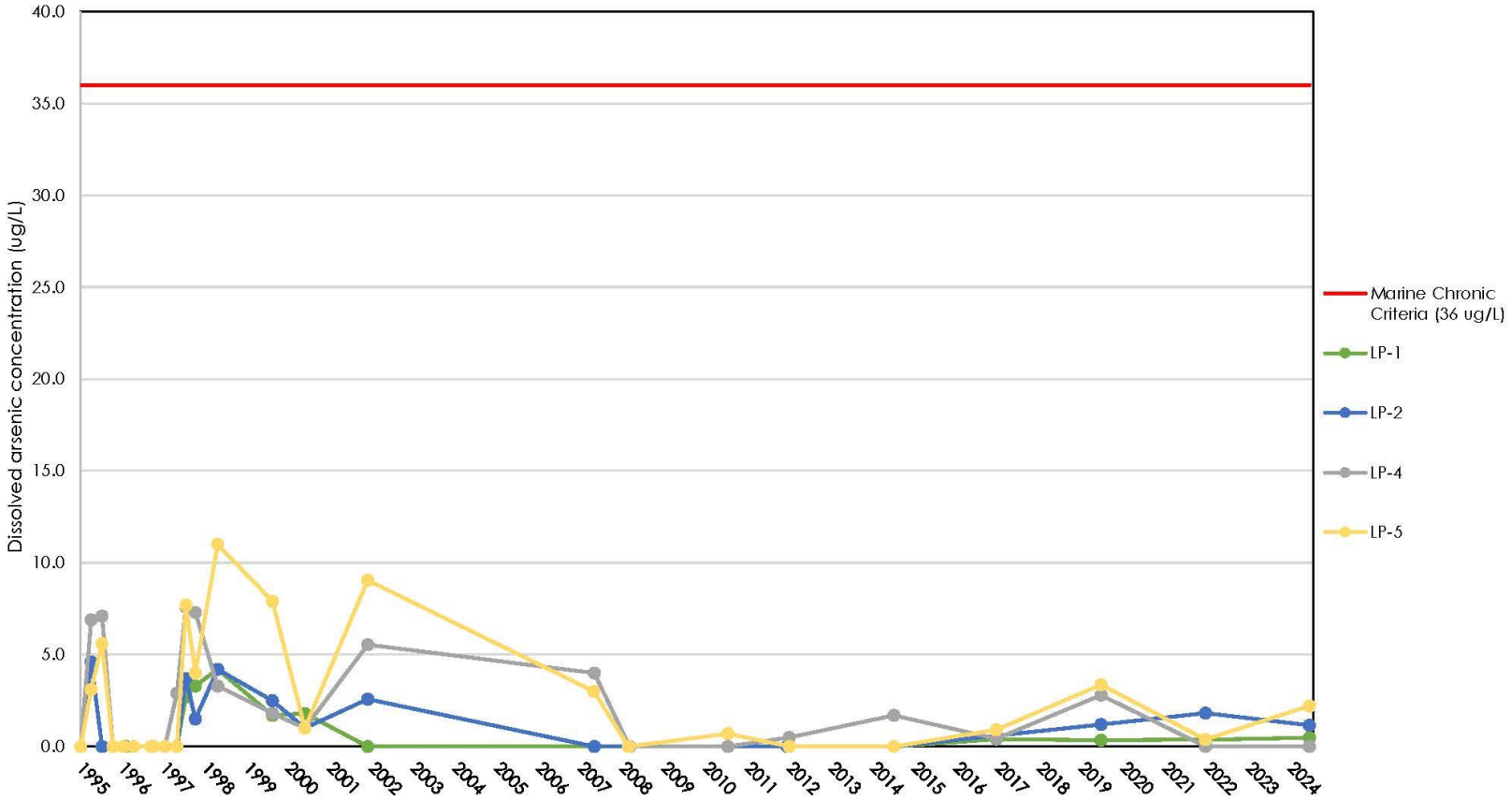
Notes:
Highlighted, red bold text = exceedance of the cleanup level
* Reporting limits for these analytes are elevated above the associated cleanup level.
-- = not analyzed
µg/L = micrograms per liter
FD = field duplicate
J = estimated value
LP = Louisiana Pacific
N = normal environmental sample
ND = non-detect, reporting limit value is unknown
U = result is non-detect at the reporting limit

Table 5. Groundwater contaminant concentrations at monitoring well LP-5.

Date	Sample Type	Dissolved Arsenic (µg/L)	Dissolved Copper (µg/L)	Dissolved Lead (µg/L)	Dissolved Zinc (µg/L)
03/22/1995	N	100 U*	2	3 U	20 U
06/21/1995	N	3.1	**3.4**	1 U	3.3
09/25/1995	N	5.6	**20**	4.4	20 U
12/28/1995	N	5 U	2 U	1 U	20 U
03/28/1996	N	10 U	2 U	8 U	20 U
06/27/1996	N	10 U	2 U	8 U	10 U
11/25/1996	N	5 U	2 U	2 U	16
12/17/1996	N	200 U*	20 U*	50 U*	20 U
03/28/1997	N	10 U	2 U	8 U	80 U
07/09/1997	N	1 U	1 U	1	37
09/26/1997	N	7.7	1 U	0.5 U	10
12/18/1997	N	4	1.7	0.5 U	6.1
06/30/1998	N	11	1 U	0.5 U	3.1
10/22/1999	N	7.9	1.2	1 U	**140**
08/2000	N	1	1	0.5	4
02/2002	N	9.05	**6.15**	1.02	69.6
07/2007	N	3	2 U	1 U	10 U
05/2008	N	ND	ND	ND	ND
09/16/2010	N	0.6	0.5 U	0.5 U	1.0
09/16/2010	FD	0.7	0.5 U	0.5 U	1.0
03/05/2012	N	0.5 U	0.5 U	--	--
03/05/2012	FD	0.5 U	0.5 U	--	--
09/06/2014	N	1 U	1 U	--	--
02/16/2017	N	0.900	1.14	--	--
02/16/2017	FD	0.908	0.900	--	--
08/21/2019	N	3.36	1 U	--	--
02/17/2022	N	0.386	0.173 U	--	--
08/14/2024	N	2.20	0.180 U	--	--

Notes:
Highlighted, red bold text = exceedance of the cleanup level
* Reporting limits for these analytes are elevated above the associated cleanup level.
-- = not analyzed
µg/L = micrograms per liter
FD = field duplicate
LP = Louisiana Pacific
N = normal environmental sample
ND = non-detect, reporting limit value is unknown
U = result is non-detect at the reporting limit

Figures



Notes:
All values were below applicable marine chronic criteria in 2024.
See Table 2 for analytical data.
Several of the concentrations are undetected results plotted at the reporting limit or are estimated values.
ug/L = micrograms per liter.

Figure 1. Dissolved Arsenic Trend Plot – 1995 to 2024 (MFA 2024)

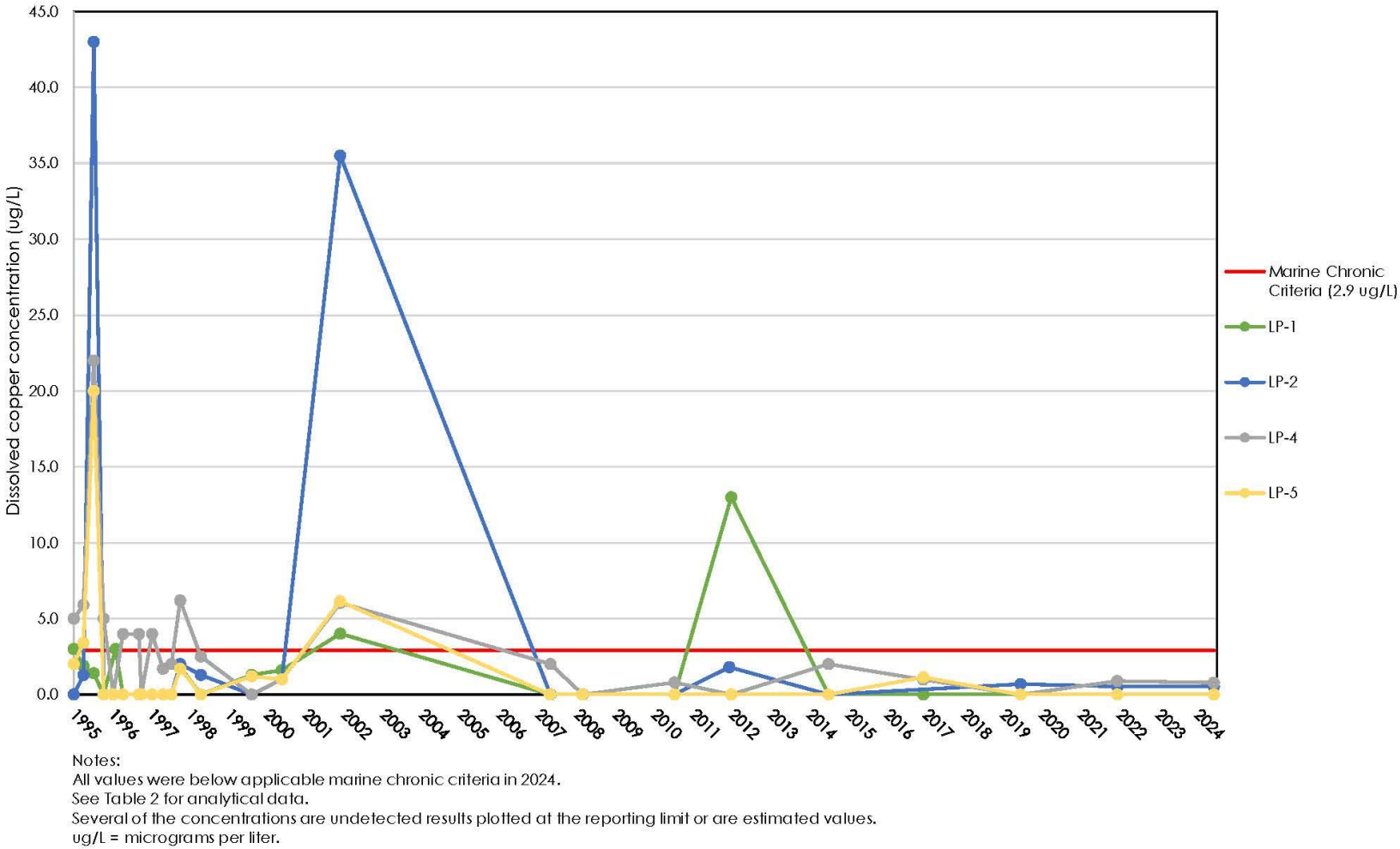
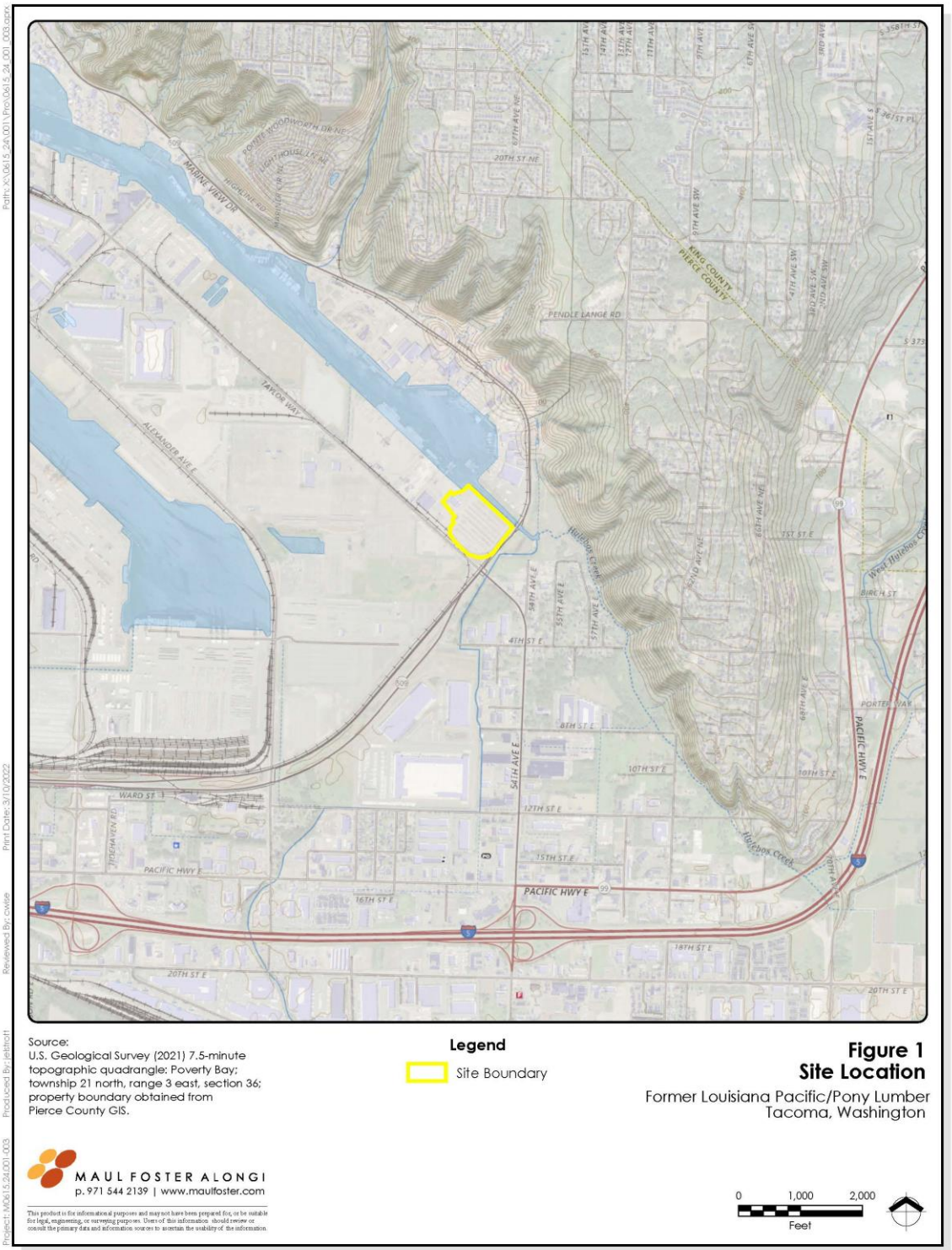


Figure 2. Dissolved Copper Trend Plot – 1995 to 2024 (MFA 2024)

Appendix A. Vicinity Map



Appendix B. Site Plan

Appendix C. Photo Log

Photo 1 (facing northeast): View of capped area from the southwest entrance to the Site.

Photo 2 (facing southeast): View of capped area along the southwest boundary of the Site.

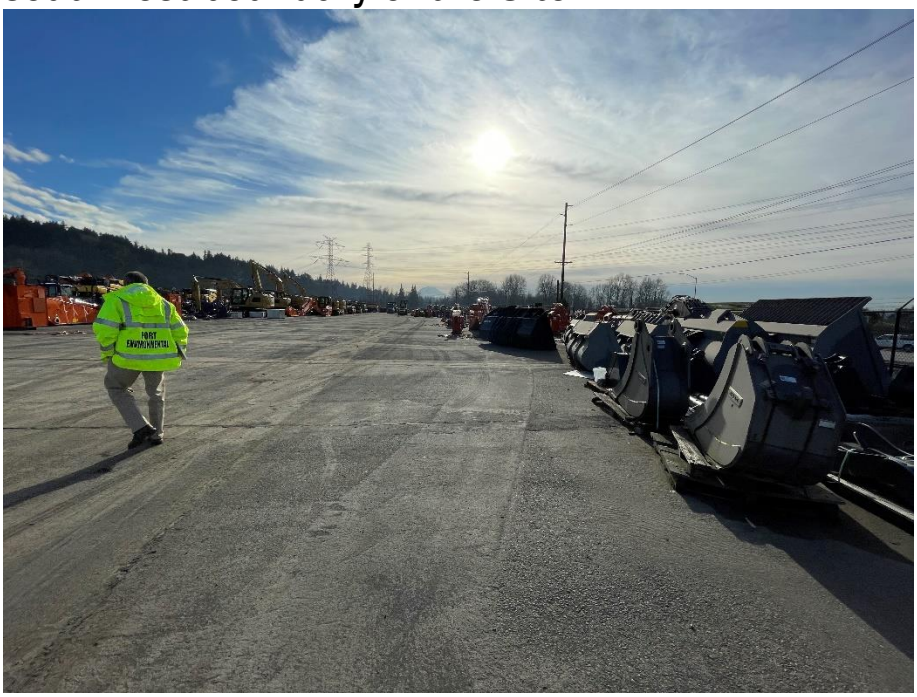


Photo 3 (facing west): View of the northwest portion of the capped area.

Photo 4 (facing northwest): View of the north-central portion of the capped area. Previous cap repairs are visible.

Photo 5 (facing northwest): View of the northeast portion of the capped area. Previous cap repairs are visible.

Photo 6 (facing northwest): View of the central portion of the capped area.

Photo 7 (facing northwest): View of the northeast portion of the capped area. Previous cap repairs are visible.

Photo 8 (facing southeast): View of the south-central portion of the capped area.

Photo 9 (facing southwest): View of minor cracking on the southern portion of the capped area.

Photo 10 (facing northeast): View of curbing along the southern portion of the capped area.

Photo 11 (facing northeast): View of a maintenance hole on the northern portion of the Site, adjacent to Hylebos Waterway.

Photo 12 (facing northeast): View of the oil/water separator access on the northern portion of the Site.

Photo 13 (facing southwest): View of a treatment basin on the southwest portion of the site near the main entrance.

Photo 14 (facing southwest): View of another treatment basin on the southern portion of the Site.

Photo 15 (facing northeast): View of a treatment basin on the eastern portion of the Site.

Photo 16 (facing north): View of a treatment basin on the northern portion of the Site. Some sediment and vegetation are visible.

Photo 17 (facing not applicable [NA]): View of a catch basin on the southeast portion of the Site.

Photo 18 (facing NA): View of another catch basin on the southwest portion of the Site.

Photo 19 (facing NA): View of monitoring well LP-1.