March 20, 2017

Washington State Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7600

Attn: Mr. Guy Barrett, Industrial Section Site Manager

Transmitted via e-mail to: *gbar461@ecy.wa.gov*

Re: Current Environmental Conditions Report
Former Grays Harbor Paper Mill Facility
Hoquiam, Washington
Project No. 0016046.010.020

Dear Guy:

On behalf of Rayonier Advanced Materials (Rayonier AM), Landau Associates, Inc. (LAI) has prepared the enclosed Current Environmental Conditions Report for the former Grays Harbor Paper Mill facility for use by Ecology to facilitate your review of the environmental conditions of the property. As we discussed during our July 26, 2016 meeting, and in subsequent conversations, the report reviews and summarizes documentation regarding environmental conditions and is intended to provide a frame of reference for environmental management decisions in the context of anticipated industrial redevelopment of the site. As you know, Rayonier AM has the property listed for sale with a real estate broker and has engaged in discussions with interested parties that it hopes will lead to the sale and redevelopment of the property for industrial purposes. We will keep Ecology apprised of the status of those discussions as they progress.

Concurrent with that documentation of environmental conditions, LAI undertook a field-screening soil investigation in the former Powerhouse Area on Rayonier AM's behalf; results from that investigation are included in the attached report.

After reviewing the Current Environmental Conditions Report, please let me know when you would like to discuss next steps. You may reach me by phone (206.631.8690) or e-mail (chalbert@landauinc.com).

LANDAU ASSOCIATES, INC.

Chip Halbert, PE
Principal

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cc: Warren Snyder, Rayonier AM
Marcy Hupp, Perkins Coie

Current Environmental Conditions Report
Former Grays Harbor Paper Mill Facility
801 23rd Street
Hoquiam, Washington

March 20, 2017

Prepared for

Rayonier Advanced Materials Properties LLC
1301 Riverplace Boulevard, Suite 2300
Jacksonville, Florida 32207

LANDAU ASSOCIATES

130 2nd Avenue South
Edmonds, WA 98020
(425) 778-0907

Current Environmental Conditions Report
Former Grays Harbor Paper Mill Facility
801 23rd Street
Hoquiam, Washington

This document was prepared by, or under the direct supervision of, the technical professionals noted below.

Document prepared by: _____ Sierra M. Mott
Supporting Author

Document reviewed by: _____ Charles P. Halbert, PE
Project Manager

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Project Coordinator:	Christopher C. Young

LANDAU ASSOCIATES

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LIST OF ABBREVIATIONS AND ACRONYMS

µg/L	micrograms per liter
ASB	Aeration Sedimentation Basin
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
cPAH	carcinogenic polycyclic aromatic hydrocarbon
Ecology	Washington State Department of Ecology
ft	feet/foot
Grays Harbor Paper	Grays Harbor Paper L.P.
Grays Harbor PUD	Grays Harbor Public Utility District
Harbor Paper	Harbor Paper LLC
HCE	hot caustic effluent
LAI	Landau Associates, Inc.
mg/kg	milligrams per kilogram
MTCA	Washington State Model Toxics Control Act
NFA	No Further Action
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
Rayonier AM	Rayonier Advanced Materials Properties LLC
site	former Grays Harbor Paper Mill facility
SSL	spent sulfur liquor
TPH	total petroleum hydrocarbons
TPH-D	diesel-range petroleum hydrocarbons
TPH-G	gasoline-range petroleum hydrocarbons
TPH-O	oil-range petroleum hydrocarbons
UST	underground storage tank
WWTP	Wastewater Treatment Plant

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1.0 INTRODUCTION

At the request of Rayonier Advanced Materials Properties LLC (Rayonier AM), Landau Associates, Inc. (LAI) prepared this Current Environmental Conditions Report, which summarizes the known status of existing environmental conditions at the former Grays Harbor Paper Mill facility located at 801 23rd Street in Hoquiam, Washington (site; Figure 1). This report describes the site, discusses the individual areas of environmental interest, and presents a discussion and summary of current conditions. Historical documents and supplemental information are included as appendices:

- Sanborn® fire insurance maps are provided in Appendix A.
- Results of the 2016 Powerhouse Area subsurface soil investigation are provided in Appendix B.
- Copies of No Further Action determinations previously issued by the Washington State Department of Ecology (Ecology) are provided in Appendix C.
- Electronic copies of selected historical documents are provided on DVD in Appendix D.

1.1 Property and Site Description

The site is composed of 11 tax parcels, totaling an area of approximately 96 acres: 92 acres owned by Rayonier AM and 4 acres owned by Harbor Paper LLC (Harbor Paper). Property owned by Harbor Paper is designated as an "out parcel" on Figure 1.

The site is a largely flat riverside property bordered to the west by the mouth of the Hoquiam River and to the south by the Chehalis River. The site is bordered to the north and east by industrial properties, with a large stormwater drainage ditch located along its eastern boundary. Port of Grays Harbor property is located to the east of the ditch. Demolition of all aboveground facilities at the site was completed in 2016; however, for the purposes of this report, areas of the site will be referenced based on pre-demolition features to provide a frame of reference. The areas are categorized by their current status: 1) areas designated as cleanup sites for which Ecology subsequently issued a determination of No Further Action (NFA); 2) areas designated as Ecology cleanup sites for which regulatory resolution was not obtained; and 3) other areas of interest based on historical operations with potential for releases to the environment.

Areas at the site are organized in this report on the basis of regulatory status, as summarized below:

- Ecology Sites with NFA Closure (Section 2.1)
  - Boneyard Area
  - Former Finishing Area
  - Silvichemical Area
  - Former Log Yard Area
- Ecology Sites without Closure (Section 2.2)
  - Paper Mill Building/Paper Machines

  - Gasoline and Maintenance Area
  - Fuel Oil Tank Area/Utility Chase Area
- Other Areas of Interest (Section 2.3)
  - Powerhouse Area
  - Wood Chip Storage Area
  - Warehouse Area
  - Former Hog Fuel Storage Area
  - Wastewater Treatment Plant and Basin Area
  - Shoreline Groundwater.

1.2 Ownership and Operational History

Grays Harbor Pulp and Paper Company constructed and began operation of a pulp and paper mill at the site in the 1920s. Prior to that time a saw mill operated on the site. Sanborn fire insurance maps documenting historical site use are provided in Appendix A.

Between the 1920s and 2013, a non-integrated paper mill producing white communication paper from recycled pulp operated at the site. All pulp used in the paper mill was imported; there was no onsite generation of pulp or bleaching of the pulp to support paper mill operations.

A separate pulp mill, which produced pulp transported to offsite facilities for further processing, operated at the site between the 1920s and 1992. The dissolving sulfite pulp mill used sodium as the counter-ion. Byproduct lignosulfonates were first used to produce vanillin at the adjacent vanillin plant and later used as an additive to drilling mud.

Operations at the mill site continued under several different owners. Rayonier AM's corporate predecessors (including Rayonier, Inc. and ITT Rayonier, referred to herein as "Rayonier") owned and operated the mill—including both pulp and paper mill operations—from the 1920s until 1992, when all mill operations were suspended by Rayonier. Rayonier completed demolition of the pulp mill, chemical product lines, and vanillin extraction facilities following mill closure in 1992; paper mill infrastructure was left in place. During demolition activities and through the mid-1990s, Rayonier undertook environmental investigation and remediation activities that are described further in this report.

Although pulp mill operations were never restarted after Rayonier's 1992 mill closure, Grays Harbor Paper, L.P. (Grays Harbor Paper) leased the site from Rayonier and restarted operation of the paper mill from 1993 through 2011. Grays Harbor Paper filed for bankruptcy in 2011, and paper mill operations were terminated at that time.

The paper mill reopened in 2012 under the ownership of Harbor Paper, LLC (Harbor Paper), which purchased the 4-acre "out parcel" and leased the remainder of the site from Rayonier. Harbor Paper terminated operations and filed for bankruptcy in 2013. The site remained under the control of Harbor Paper, Grays Harbor Public Utility District (PUD), and BIDITUP Auctions Worldwide, Inc. (BIU) until demolition activities were complete in 2016.

Paper mill operations continued through 2013. Wood waste was transported to the facility and processed to create hog fuel. Hog fuel was burned in three boilers to generate electrical power through three steam turbines. The generated electricity powered the facility and excess electricity was sold to Grays Harbor PUD. Boiler ash was removed manually and transported to the eastern portion of the site for storage. Process water from the paper mill was routed to the onsite wastewater treatment plant (WWTP). Wastewater treatment processes consisted of primary treatment followed by secondary activated sludge treatment. Treated wastewater was discharged to the waters of the Chehalis River via an outfall under a National Pollutant Discharge Elimination System Individual Permit. Sludge from the wastewater treatment system was removed from the treatment ponds and temporarily stored on the site prior to transport for offsite disposal.

1.3 Geologic Setting

The following sections summarize the shallow/near-surface geology and hydrogeology of the site based on previous soil and groundwater investigations.

1.3.1 Geology

The site is situated on Quaternary and Pleistocene Alluvium underlain by the Pliocene Montesano Formation. Shallow soil at the site is a heterogeneous mix of alluvial river deposits; silt, sand, clay, and gravel; dredge fill from the river channels; imported fill, soil, wood chips and other wood debris; and buried construction debris (e.g., bricks and concrete). Varying quantities of boiler ash and clarifier solids are also likely to be found at the land surface from historical onsite storage piles (in addition to the large piles that were removed from the site by Grays Harbor PUD). The deeper Montesano Formation consists of interbedded fluvial, lacustrine, brackish-water, and shallow marine deposits.

1.3.2 Hydrogeology

Groundwater across the site is generally found at depths of 2 to 10 feet below ground surface (ft bgs) depending on topography. Based on historical groundwater elevation maps, groundwater at the site generally flows south-southwest toward the Chehalis River, except in the eastern portion of the site (in the vicinity of the Paper Mill Building) where the flow direction transitions eastward toward the Hoquiam River. Localized flow variations are likely to be found around surface water impoundments (e.g., stormwater/wastewater basins) and other large aboveground features.

2.0 ENVIRONMENTAL INVESTIGATION AREAS

A series of soil and groundwater investigations were completed at the site by Rayonier AM (here and elsewhere in this document, actions referenced as undertaken by Rayonier AM are inclusive of actions taken by its predecessor, Rayonier), beginning in 1992. Investigation activities included drilling and sampling soil borings and installing a groundwater monitoring well network.

Soil and groundwater investigations were primarily focused on specific areas of the site in which 1) releases to the environment were known or suspected, and 2) historical operations were considered to have had the potential for releases to the environment, even if they were not suspected. A network of groundwater monitoring wells was also established along the shoreline to allow for sampling that would document whether concentrations of concern could be migrating off site.

Ecology assigned individual site identification numbers to some of the investigation areas, as shown on Figure 1 and in Table 1. In documents produced at the time of the historical environmental investigations, chemical concentrations in soil were compared to applicable Model Toxics Control Act (MTCA) Method A industrial or Method B cleanup levels, and contaminant concentrations in groundwater were compared to applicable Method A or B drinking water cleanup levels. Areas that were designated as Ecology sites, and for which site closure was established by issuance of an NFA determination, are described in Section 2.1 below. Other areas of the site—including Ecology-designated sites and other areas of interest—are described in Sections 2.2 and 2.3, respectively, with comparisons to current MTCA cleanup levels for screening purposes.

Information summarized in the sections below is from numerous reports generated in the 1990s. The description of environmental conditions in the Powerhouse Area also includes the results from further soil screening investigation efforts that were completed in 2016 and is presented for the first time in this report (Section 2.3.2). Historical documentation of environmental investigations is summarized in the references and bibliography section; 2016 Powerhouse Area investigation results are provided in Appendix B; and electronic copies of selected historical documents are provided on DVD in Appendix D.

2.1 Ecology Sites with NFA Closure

Four sites were confirmed to have met applicable cleanup requirements under the MTCA regulations and received NFA determinations from Ecology: the Boneyard Area (Cleanup Site ID No. 2498), the former Finishing Area (Cleanup Site ID No. 577), the Silvichemical Area (Cleanup Site ID No. 2676), and the former Log Yard Area (Cleanup Site ID No. 2614). The following sections summarize areas of the site that were previously designated as Ecology sites, and for which an NFA determination was received based on work completed. Copies of the NFA determinations are provided in Appendix C.

2.1.1 Boneyard Area (Cleanup Site ID No. 2498)

The Boneyard Area is located on the western end of the site. During the 1930s, the Boneyard Area was filled with dredged sediment, wood waste, and construction debris. The area was graded and then the fill material was capped with soil and gravel. After being graded and graveled, the Boneyard Area was used to store new and used equipment.

Based on the historical use of fill material in the Boneyard Area, and its use as an equipment storage area, Rayonier undertook an environmental investigation of the area between 1992 and 1995 (Rayonier 1996a). The entire Boneyard Area was investigated on a grid basis, with additional sampling conducted where initial samples indicated concentrations of concern. In total, soil samples were collected at multiple depths from 53 borings, and analyzed for lead, chromium, total petroleum hydrocarbons (TPH) in the diesel range (TPH-D) and oil range (TPH-O), and polychlorinated biphenyls (PCBs). Groundwater samples were collected from seven monitoring wells and analyzed for lead, chromium, TPH, PCBs, and polycyclic aromatic hydrocarbons (PAHs).

Environmental investigations in the Boneyard Area identified concentrations of TPH, PCBs, and lead in soil that exceeded 1993 MTCA Method A industrial cleanup levels. In groundwater, TPH, lead and chromium were the primary chemicals exceeding MTCA cleanup levels; PCBs and PAHs were detected in a few isolated locations. Those sample results prompted Ecology to designate the Boneyard Area as a cleanup site (Cleanup Site ID No. 2498).

In response to investigation results that confirmed a release to the environment—and further investigation to refine the nature and extent of contamination requiring cleanup under the MTCA regulation—a cleanup action was undertaken to remove soils with chemical concentrations of concern, and to contain (beneath an asphalt cap) soil with residual chemical concentrations determined to be acceptable for an industrial property. The cleanup action included 1) excavation of approximately 735 tons of soil near the property line in the northwestern portion of the Boneyard Area to address PCB and TPH contamination, and 2) excavation of approximately 300 tons of soil from the northeastern portion of the Boneyard Area near the paper mill building to address TPH contamination. An asphalt cap was installed on the remainder of the Boneyard Area to prevent exposure to contaminated soil. Institutional controls in the form of a restrictive covenant (deed restriction) were implemented to maintain and prevent disturbance of the cap, ensure continued use of the property for industrial purposes, and prevent extraction of groundwater for drinking water.

In a letter dated October 21, 1996, Ecology determined that the Boneyard Area did not pose a threat to human health or the environment and that no further action was necessary to address contamination in the Boneyard Area (Ecology 1996a). Ecology's NFA determination remains in effect. No further action is recommended in the Boneyard Area.

2.1.2 Former Finishing Area (Cleanup Site ID No. 577)

The former Finishing Area is located on the west side of the site, adjacent to the southeast corner of the Paper Machine Area (out parcel). The area was used for dewatering and drying the pulp generated at the site prior to shipping it off site.

Based on the historical use of hydraulic oil in the former Finishing Area, Rayonier undertook an environmental investigation of the area in 1994. The investigation included excavation of 19 test pits and the subsequent drilling of 14 soil borings (B1 through B14). Soil samples from the test pits and borings were analyzed for TPH-O and TPH-D to evaluate the extent of contamination. Contaminant concentrations exceeded the 1993 MTCA cleanup levels, prompting Ecology to designate the former Finishing Area as a cleanup site (Cleanup Site ID No. 577).

In response to investigation results that confirmed a release to the environment—and further investigation to refine the nature and extent of contamination requiring cleanup under the MTCA regulation—a cleanup action was undertaken to remove soils with chemical concentrations of concern. Two remedial excavations were conducted that removed approximately 950 cubic yards (approximately 1,425 tons) of TPH-contaminated soil from this area. Subsequent confirmation samples were collected from the base and sidewalls of the excavations; confirmation samples confirmed that the remaining TPH concentrations in soil were less than applicable MTCA cleanup levels.

In a letter dated October 31, 1996, Ecology determined that the former Finishing Area did not pose a threat to human health or the environment and that no further action was necessary to address contamination in the former Finishing Area (Ecology 1996b). Ecology's NFA determination remains in effect. No further action is recommended in the Finishing Area.

2.1.3 Silvichemical Area (Cleanup Site ID No. 2676)

The Silvichemical Area is located east of the maintenance shops and south of the administrative offices near the main entrance. The complex includes the silvichemical warehouse and chrome lignosulfonate bagging area and warehouse.

Based on the handling of chrome lignosulfonate, Rayonier undertook an environmental investigation of the area in 1992 and 1993(Pacific Environmental Group 1992a, 1993), sampling beneath the bagging warehouse and the chrome lignosulfonate bagging area (Pacific Environmental Group 1992a, 1993a). Soil samples were collected at multiple depths from 20 soil borings; grab samples of groundwater were collected from three of the soil borings. Soil and groundwater samples were analyzed for chromium. Concentrations of chromium in soil exceeded the MTCA cleanup level applicable in late 1992 and early 1993, prompting Ecology to designate the Silvichemical Area as a cleanup site (Cleanup Site ID No. 2676). However, the July 1993 update to MTCA cleanup standards

revised cleanup levels for chromium based on speciation between trivalent and hexavalent chromium; as described further below, the impact of the revised cleanup levels was that the concentrations detected in already-analyzed soil samples no longer exceeded the applicable cleanup levels.

In response to preliminary investigation results that indicated a potential release to the environment—and in the context of Ecology's imminent update to MTCA standards in the middle of 1993—Rayonier undertook additional investigation activities in the Silvichemical Area in June 1993. Soil samples were collected from 20 additional soil borings, and groundwater samples were collected from monitoring wells MW-1, MW-6, and MW 7. Samples were analyzed for total chromium, hexavalent chromium (soil), and dissolved chromium (groundwater). Chromium concentrations in all soil and groundwater samples—including samples collected before and after the 1993 cleanup level revision—were confirmed to be less than 1993 MTCA cleanup levels (Pacific Environmental Group 1993a).

In a letter dated December 15, 1993, Ecology determined that the former Silvichemical Area did not pose a threat to human health or the environment and that no further action was necessary to address contamination in the Silvichemical Area. Ecology's NFA determination remains in effect (Ecology 1996c). No further action is recommended in the Silvichemical Area.

2.1.4 Former Log Yard Area (Cleanup Site ID No. 2614)

The former Log Yard Area is located on the east side of the site, south of the former Hog Fuel Storage Area. During the 1930s, the Boneyard Area was filled with dredged sediment, wood waste, and construction debris. The area was graded and then the fill material was capped with soil. After being graded and capped, the area was used for the storage of logs used in the pulping process.

Based on the historical use of fill material in the former Log Yard Area, Rayonier undertook an environmental investigation of the area in 1994 and 1995 (Rayonier 1995). Soil samples were collected at multiple depths from 71 borings, and analyzed for lead, chromium, TPH, PCBs, and PAHs. Groundwater samples were collected from seven monitoring wells and analyzed for lead, chromium, TPH, PCBs, and PAHs.

Environmental investigations identified concentrations of lead in soil that exceeded the 1993 MTCA Method A industrial cleanup level in one discrete area near the south end of the former Log Yard Area. Those sample results prompted Ecology to designate the former Log Yard Area as a cleanup site (Cleanup Site ID No. 2614).

In response to investigation results that indicated the potential for a localized release to the environment—and further investigation to refine the nature and extent of contamination requiring cleanup under the MTCA regulation—a cleanup action was undertaken to remove soils with chemical concentrations of concern. A remedial excavation was conducted that removed approximately 80

cubic yards (approximately 120 tons) of lead-contaminated soil from this area. Subsequent confirmation samples were collected from the base and sidewalls of the excavation; concentrations were confirmed to be less than the applicable MTCA cleanup levels.

In a letter dated October 23, 1996, Ecology determined that the former Log Yard Area did not pose a threat to human health or the environment and that no further action was necessary to address contamination in the former Log Yard Area (Ecology 1996c). Ecology's NFA determination remains in effect. No further action is recommended in the former Log Yard Area.

2.2 Ecology Sites without Closure

This section summarizes current conditions at Ecology sites (sites that have received an Ecology Cleanup Site ID and Facility ID) that 1) have not yet received regulatory closure through an Ecology-issued NFA determination, or 2) that are recorded in Ecology's database as having received an NFA determination, but for which the NFA documentation is not available in Rayonier AM or Ecology's records. Historical chemical concentrations in these areas were compared to current MTCA cleanup levels in soil (Table 2 and Figure 2) and groundwater (Table 3 and Figure 3) for screening purposes.

2.2.1 Paper Machine Area (Paper Mill Building aka Grays Harbor Paper LP) (Cleanup Site ID Nos. 1172 and 2262)

The Paper Machine Area, an Ecology-designated cleanup site, is on property owned by Harbor Paper (not Rayonier AM) within the greater site that is otherwise owned by Rayonier AM; it is on the west side of the site. This 4-acre area was the location of the non-integrated paper mill that produced white communication paper from offsite-sourced recycled pulp. The paper mill was operated by Rayonier between the 1920s and 1992, and by other parties between 1993 and 2013.

Based on the historical paper mill operations in the Paper Machine Area, Rayonier undertook an environmental investigation of the area in 1992 and 1993 (Pacific Environmental Group 1992b, 1993b). Soil samples were collected from 52 locations beneath the then-standing paper machine building. The samples were analyzed for TPH and PCBs. Concentrations exceeded the 1993 MTCA cleanup levels for TPH-D, TPH-O, and PCBs, prompting Ecology to designate the former Paper Machine Area as a cleanup site (Cleanup Site ID No. 1172, later Cleanup Site ID No. 2262).

In response to investigation results that indicated a release to the environment, a cleanup action was undertaken to remove soils with chemical concentrations of concern. Several remedial excavations were conducted in 1995 below Paper Machine #1 and Paper Machine #2 (EMS 1996, Pacific Environmental Group 1996c, Rayonier 1996c). These remedial actions removed approximately 380 tons of TPH-contaminated soil and 292 tons of PCB-contaminated soil and wood debris from beneath the paper machine building. Approximately 100 confirmation samples were subsequently collected from the base and sidewalls of the excavations.

Although some localized areas of soil contained TPH or PCB concentrations exceeding the 1993 MTCA cleanup levels, the excavation was considered substantively complete. In a letter dated March 15, 1996, Rayonier AM petitioned Ecology to review the results of the interim action and to issue an NFA determination (Rayonier 1996d). In the absence of a documented NFA determination, the Paper Machine Area remains an area of interest. Documented soil and groundwater conditions are summarized below and presented in Tables 2 and 3, respectively.

2.2.1.1 Soil Conditions

Data from soil samples collected from outside interim action areas and from samples characterizing post-interim action conditions were compared to current MTCA Method A industrial cleanup levels. Table 2 includes soil data that represent post-interim action conditions (i.e., soil sampling locations where soil was later removed are not included). Figure 2 shows areas in which current MTCA cleanup levels are exceeded by historical concentrations.

TPH and PCB concentrations remaining in soil in this area are mostly below current MTCA Method A industrial soil cleanup levels. TPH concentrations (maximum of 22,000 milligrams per kilogram [mg/kg]) in soil at three discrete locations (two near the western edge of the Paper Machine #2 footprint and one near the eastern edge of the Paper Machine #1 footprint) still exceed the current cleanup levels, and samples from two other discrete locations (one each near the western edge and eastern edge of the Paper Machine #1 footprint) indicate that PCB concentrations (maximum of 12 mg/kg) still exceed the current cleanup level. In each of these areas, interim action excavations were discontinued due to physical constraints of the building structural components. This area is not under the ownership or control of Rayonier AM.

2.2.1.2 Groundwater Conditions

No groundwater data are available for groundwater directly beneath the Paper Machine Area.

2.2.2 Gasoline and Maintenance Area (Cleanup Site ID No. 10440)

The Gasoline and Maintenance Area is located toward the north end of the site, north of the Powerhouse Area and east of the Paper Mill Building. This area was used for facility equipment and vehicle maintenance, and fueling operations. Historical information indicates that at least two underground storage tanks (USTs) were previously located in the Gasoline and Maintenance Area. One of the USTs was reportedly removed in 1984 and the other UST was removed in 1994 (Pacific Environmental Group 1992a, 1994a).

Based on the use of USTs and other maintenance equipment, Rayonier undertook an environmental investigation of the area in 1993. Soil samples were collected from seven soil borings and one monitoring well boring. The samples were analyzed for lead, chromium, gasoline-range TPH (TPH-G), TPH-D, TPH-O, and benzene, toluene, ethylbenzene, and xylenes (BTEX).

Although chemical concentrations did not exceed the 1993 MTCA cleanup levels for any of the chemicals of interest, lead, TPH, and benzene were detected in soil, prompting Ecology to designate the Gasoline and Maintenance Area as a leaking underground storage tank (LUST) site in 1995 (Ecology 1995). Documented soil and groundwater conditions are summarized below and described in Tables 2 and 3, respectively. Figures 2 and 3 show areas in which current MTCA cleanup levels are exceeded by historical concentrations.

2.2.2.1 Soil Conditions

Soil sampling data from the Gasoline and Maintenance Area were compared to current MTCA Method A industrial cleanup levels. Concentrations of chromium, lead, TPH, and BTEX are below cleanup levels with the exception of the benzene concentration in one sample from 3.5 ft bgs from the MW-3 soil boring (0.18 mg/kg), which exceeds the cleanup level of 0.03 mg/kg.

2.2.2.2 Groundwater Conditions

Previous groundwater sampling results from monitoring well MW-3 in the Gasoline and Maintenance Area were compared to current MTCA Method A groundwater cleanup levels. Concentrations of TPH-G (maximum of 7,100 micrograms per liter [µg/L]), TPH-D (maximum of 1,700 µg/L), TPH-O (maximum of 750 µg/L), benzene (maximum of 810 µg/L), and lead (maximum of 31 µg/L) were detected in groundwater samples from MW-3 above their respective groundwater cleanup levels.

2.2.3 Fuel Oil Tank/Utility Chase Area (Cleanup Site ID No. 1255)

The Fuel Oil Tank/Utility Chase Area is on the north end of the site, located north of the Silvichemical Area. The Fuel Oil Tank Area historically contained two aboveground storage tanks, one used for the storage of No. 6 fuel oil and one used for the storage of pulping liquor. The Utility Chase Area is located immediately south of the Fuel Oil Tank Area and consists of an asphalted road overlying an underground utility corridor. During pulp mill demolition activities in 1992, No. 6 fuel oil was released from a ruptured oil line to soil and backfill material in the Utility Chase Area.

Based on the storage, handling, and one known release of No. 6 fuel oil, Rayonier undertook an environmental investigation of the area in 1993 and 1994 (Pacific Environmental Group 1994c). Soil samples were collected at multiple depths from 12 soil borings. The samples were analyzed for lead, TPH-D, TPH-O, BTEX, and PAHs. Concentrations of TPH-O and TPH-D, indicative of No. 6 fuel oil contamination, exceeded the 1993 MTCA cleanup levels, prompting Ecology to designate the Fuel Oil Tank/Utility Chase Area as a cleanup site (Cleanup Site ID No. 1255).

In response to the No. 6 fuel oil release and other investigation results in the Fuel Oil Tank/Utility Chase Area, a cleanup action was undertaken to remove soils with chemical concentrations of concern. Based on the results of the soil sampling, two remedial excavations were conducted that removed approximately 460 tons of soil contaminated with No. 6 fuel oil (Pacific Environmental Group

1994b, 1996b). Soil with concentrations of TPH exceeding 1993 MTCA cleanup levels was initially left in-place in isolated locations because it was beyond the practicable limits of excavation. Subsequent excavation was conducted to remove the remaining contamination in response to Ecology's request, as documented in a letter dated November 22, 1996 (Rayonier 1996b).

Based on the documentation of remedial actions, the Fuel Oil Tank/Utility Chase Area is recorded in Ecology's database as having received an NFA determination; however, specific NFA documentation is not available in Rayonier AM or Ecology's records. In the absence of specific details relating to the NFA status of the Fuel Oil Tank/Utility Chase Area, historically documented soil and groundwater conditions are summarized below and described in Tables 2 and 3, respectively. Figures 2 and 3 show areas in which current MTCA cleanup levels are exceeded by historical concentrations.

2.2.3.1 Soil Conditions

Analytical results from soil samples collected from outside remedial action areas and from samples characterizing post-interim action conditions in the Fuel Oil Tank Area were compared to current MTCA Method A industrial cleanup levels. Soil sampling results from the Utility Chase Area were also compared to the current cleanup levels. Soil in the southwest corner of the bermed containment area (at the sidewall of the southern remedial excavation) contains concentrations of TPH-D (7,230 mg/kg) above the current MTCA cleanup level. Soil from one of the borings in the Utility Chase Area also contains concentrations of TPH-D (maximum of 2,700 mg/kg) above the MTCA cleanup level.

2.2.3.2 Groundwater Conditions

Groundwater sampling results from monitoring wells MW-4 and C-2 were compared to current MTCA Method A groundwater cleanup levels. Groundwater from monitoring well MW-4, which is proximate and likely downgradient of both the Utility Chase and Fuel Oil Storage areas, has had concentrations of TPH-D (maximum of 1,800 µg/L), TPH-O (maximum of 910 µg/L), PAHs (maximum of 0.3 µg/L), and chromium (110 µg/L) above the cleanup levels.

2.3 Other Areas of Interest

Rayonier has identified areas of interest, based on historical operations with potential for releases to the environment, which have not received an Ecology Cleanup Site ID or Facility ID. This section summarizes current conditions at those areas of interest. Historical chemical concentrations in these areas, based on samples collected and analyzed in the 1990s, were compared to current MTCA cleanup levels in soil (Table 2 and Figure 2) and groundwater (Table 3 and Figure 3) for screening purposes.

2.3.1 Powerhouse Area

The Powerhouse Area is located in the central portion of the site. The area previously comprised a concrete building that housed three wood waste-fired boilers and three turbines; the system

generated power and supplied steam for mill operations. Boilers were fueled by No. 6 fuel oil and hog fuel (wood waste).

Based on the storage, handling, and one known release of No. 6 fuel oil, Rayonier undertook an environmental investigation of the area between 1993 and 1994 (Pacific Environmental Group 1994c). Soil samples were collected at multiple depths from 15 soil borings; the samples were analyzed for lead, TPH-G, TPH-D, TPH-O, BTEX, and PAHs. Groundwater was also sampled from two monitoring wells (MW-2 and MW-8) and analyzed for chromium, TPH, BTEX, and PAHs. Concentrations of TPH-O and TPH-D, indicative of No. 6 fuel oil contamination, exceeded the 1993 MTCA cleanup levels; however, ongoing operations in the Powerhouse Area precluded Rayonier from undertaking any remedial action at that time.

Completion of site demolition activities in 2016 provided access for additional subsurface explorations in the Powerhouse Area. A field-screening investigation was undertaken to identify the extent of residual contamination by No. 6 fuel oil that would pass a "sheen test" (i.e., a test to confirm whether No. 6 fuel oil is present at residual concentrations high enough to separate as free product). The September 2016 investigation included field screening of soil from 19 borings (PH-17 through PH-35) to define the current vertical and horizontal extent of No. 6 fuel oil contamination present at levels that test positive for generation of a sheen in the sheen test. Detailed information about the 2016 investigation (including Powerhouse Area cross sections) is provided in Appendix B.

2.3.1.1 Soil Conditions

Analytical results of soil samples collected in 1993 from within this area were compared to current MTCA Method A industrial cleanup levels. Concentrations of TPH-D (maximum of 250,000 mg/kg), TPH-O (maximum of 270,000 mg/kg), benzene (0.22 mg/kg), xylenes (15 mg/kg), and carcinogenic PAHs (cPAHs; maximum of 230 mg/kg) were detected in soil samples from within the former building crawlspace above their respective soil cleanup levels.

The 2016 investigation used field-screening techniques to identify the presence of No. 6 fuel oil; no samples were collected for laboratory analysis. No. 6 fuel oil was identified in a horizontal area approximately 80 ft by 120 ft at a maximum depth of 13 ft bgs. Consistent with results from sampling conducted during the investigation performed in the 1990s, the contamination has not migrated beyond the boundaries of the former powerhouse building. During the 2016 investigation, substantial subsurface infrastructure was encountered, including rebar-reinforced concrete slabs thicker than 2 ft. This subsurface infrastructure constrains cleanup at the Powerhouse Area currently, and also serves to limit the potential for contaminant migration and exposure.

2.3.1.2 Groundwater Conditions

Historical groundwater sampling results from the Powerhouse Area were compared to current MTCA Method A groundwater cleanup levels. Groundwater from each of the monitoring wells in this area

(MW-2 and MW-8) has historically had concentrations of TPH-D (maximum of 1,900 µg/L) and TPH-O (maximum of 3,700 µg/L) above current MTCA cleanup levels. In addition, concentrations of cPAHs (0.76 µg/L) and chromium (300 µg/L) in groundwater in one sample from MW-8 exceeded their respective MTCA cleanup levels. Groundwater was not encountered during the 2016 investigation.

2.3.2 Wood Chip Storage Area

The Wood Chip Storage Area is located in the central portion of the site, west of the Warehouse Area. The area was used to store wood chips ultimately used in former pulping processes.

Based on the use of heavy equipment in the Wood Chip Storage Area, Rayonier undertook an environmental investigation of the area in 1993 (Pacific Environmental Group 1994c). Soil samples were collected from eight soil borings; the samples were analyzed for lead, chromium, TPH-D, and TPH-O. All chemical concentrations in soil were below 1993 MTCA cleanup levels in the Wood Chip Storage Area (Pacific Environmental Group 1994a).

2.3.2.1 Soil Conditions

Soil sampling results from the Wood Chip Storage Area were compared to current MTCA Method A industrial cleanup levels. Concentrations of lead, chromium, and TPH in soil are below the current MTCA cleanup levels.

2.3.2.2 Groundwater Conditions

No groundwater sampling has been conducted in this area and there are no monitoring wells in this area.

2.3.3 Warehouse Area

The Warehouse Area is located in the central portion of the site, east of the Wood Chip Storage Area. The area included the Mobile Equipment Maintenance Building that was reportedly used to store decommissioned electrical equipment and machinery, some of which may have contained PCBs (Pacific Environmental Group 1992b).

Based on the storage of electrical equipment and machinery in the area, and based on truck traffic to the maintenance building, Rayonier undertook an environmental investigation of the area in 1993 (Pacific Environmental Group 1994c). Soil samples were collected from nine soil borings; the samples were analyzed for lead, chromium, TPH-D, TPH-O, and PCBs. A groundwater sample was collected from monitoring well MW-5 and analyzed for lead, chromium, TPH-D, and TPH-O. All chemical concentrations in soil and groundwater were below 1993 MTCA cleanup levels in the Warehouse Area (Pacific Environmental Group 1994a).

2.3.3.1 Soil Conditions

Soil sampling results from the Warehouse Area were compared to current MTCA Method A industrial cleanup levels. Concentrations of lead, chromium, PCBs, and TPH in soil are below the current MTCA cleanup levels.

2.3.3.2 Groundwater Conditions

Groundwater sampling results from monitoring well MW-5, located on the presumed downgradient (south) edge of the Warehouse Area were compared to current MTCA Method A groundwater cleanup levels. Concentrations of lead, chromium, and TPH in groundwater are below the current cleanup levels.

2.3.4 Former Hog Fuel Storage Area

The former Hog Fuel Storage Area is located in the eastern portion of the site, directly east of the Warehouse Area. The former Hog Fuel Storage Area stored hog fuel (wood waste) that was used for boiler fuel.

Based on the use of heavy equipment in the former Hog Fuel Storage Area, Rayonier undertook an environmental investigation of the area in 1993 (Pacific Environmental Group 1994c). Soil samples were collected from 16 soil borings; the samples were analyzed for lead, chromium, and TPH. Chemical concentrations in soil were below 1993 MTCA cleanup levels in the Hog Fuel Storage Area (Pacific Environmental Group 1994a). Chemical concentrations in groundwater measured in samples from piezometer C-17 between 1993 and 1995 were less than 1993 MTCA cleanup levels at the former Hog Fuel Storage Area (Pacific Environmental Group 1994a, 1996a).

2.3.4.1 Soil Conditions

Soil sampling results from the former Hog Fuel Storage Area were compared to current MTCA Method A industrial cleanup levels. Concentrations of lead, chromium, and TPH in soil are below the current MTCA cleanup levels.

2.3.4.2 Groundwater Conditions

Groundwater sampling results from piezometer C-17 were compared to current MTCA Method A groundwater cleanup levels. Groundwater from C-17, which is near the northern and presumably upgradient edge of the site, has had concentrations of TPH-D (maximum of 2,900 µg/L) and TPH-O (maximum of 1,100 µg/L) above the cleanup levels. Concentrations of chromium, lead, BTEX, and PAHs were below the current MTCA groundwater cleanup levels.

2.3.5 Wastewater Treatment Plant and Basin Area

The WWTP and Basin Area is situated on the east end of the site and consists of a primary clarifier, three secondary clarifiers, a spent sulfite liquor (SSL) basin, a hot caustic effluent (HCE) basin, and an aeration sedimentation basin (ASB) pond.

2.3.5.1 Soil

No soil sampling has been conducted in this area. However, in late 2014 to early 2015 Grays Harbor PUD drained the ASB pond and collected bottom solids samples as part of a bottom-solids disposal effort. Grays Harbor PUD subsequently excavated and removed bottom solids from the ASB pond and disposed of the bottom solids off site.

2.3.5.2 Groundwater

Groundwater has not been characterized in the WWTP and Basin Area.

2.3.6 Shoreline Area

In addition to groundwater monitoring wells and piezometers that were installed to evaluate groundwater conditions in specific areas of interest, Rayonier installed and sampled monitoring wells and piezometers along the shoreline. Shoreline monitoring locations included MW-2, MW-9 through MW-15, C-4 through C-8, and C-13. Groundwater samples were collected and analyzed for lead, chromium, TPH, BTEX, PAHs, PCBs, and volatile organic compounds on multiple occasions between 1992 and 1995 (Pacific Environmental Group 1992a, b, 1996a). The subsections below summarize findings from the shoreline wells formerly located at the site.

2.3.6.1 Soil Conditions

No soil samples were reportedly collected from the well borings in the Shoreline Area.

2.3.6.2 Groundwater Conditions

Previous groundwater sampling results from the Shoreline Area were compared to current MTCA Method A groundwater cleanup levels. Groundwater data from monitoring wells MW-9 through MW-15 (along the western shoreline areas) were reviewed and addressed in the context of the remedial action and NFA determination for the Boneyard Area.

Groundwater from monitoring wells C-4 through C-8 (along the central and eastern shoreline areas) had concentrations of TPH-O (maximum of 6,300 µg/L) and TPH-D (maximum of 4,600 µg/L) above the MTCA cleanup level (500 µg/L). One sample from C-4 had a concentration of lead (43 µg/L) above the MTCA cleanup level (15 µg/L).

3.0 SUMMARY

Outside of the areas in which NFA determinations have been made by Ecology, and for which documentation is included in Appendix C, chemicals have been detected in soil and/or groundwater at concentrations exceeding current MTCA Method A industrial cleanup levels in the following areas:

- Paper Machine Area: TPH and PCBs in soil; and TPH, chromium and lead in groundwater
- Gasoline and Maintenance Area: Benzene in soil; and TPH, benzene, xylenes and lead in groundwater
- Fuel Oil Tank/Utility Chase Area: TPH in soil; and TPH, PAHs, and chromium in groundwater
- Powerhouse Area: TPH, benzene, xylenes, and cPAHs in soil; and TPH, chromium and cPAHs in groundwater
- Former Hog Fuel Storage Area: TPH in groundwater
- Wastewater Treatment Plant and Basin Area: TPH, total chromium in groundwater; and insufficient soil data
- Other Shoreline Areas: TPH and lead in groundwater.

TPH is one of the primary chemicals of potential concern at the site based on data from historical environmental investigations. It is noted, however, that those reported concentrations may be biased high (i.e., they may overestimate the true petroleum-related hydrocarbon concentrations) due to interferences by non-petroleum organic materials. After initial sample results in the former Log Yard Area indicated that TPH concentrations exceeded cleanup levels, a subsequent round of sampling was conducted using the silica gel cleanup step to remove analytical interference by non-petroleum organic materials. The latter sampling event confirmed that the true TPH concentrations were well below cleanup levels. It is anticipated that many of the reported TPH concentrations in other areas of the site may be similarly influenced by non-petroleum organic materials. The environmental conditions described above should be reviewed in that context.

Chemical concentrations in soil in these areas appear to be localized and, therefore, none of the areas listed above present an immediate threat to human health or the environment. The areas identified above may warrant further action, depending on the development of plans for property reuse.

4.0 USE OF THIS REPORT

This report has been prepared for the exclusive use of Perkins Coie LLP, Rayonier AM, and Ecology for specific application to the former Grays Harbor Paper Mill facility located at 801 23rd Street in Hoquiam, Washington. Notwithstanding the recognition that Perkins Coie LLP and Rayonier AM may use this report to support discussions with third parties, including Ecology, no other party is entitled to rely on the information, conclusions, and recommendations included in this document without the express written consent of LAI. Further, the reuse of information, conclusions, and recommendations provided herein for extensions of the project or for any other project, without review and authorization by LAI, shall be at the user's sole risk. LAI warrants that within the limitations of scope, schedule, and budget, our services have been provided in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions as this project. We make no other warranty, either express or implied.

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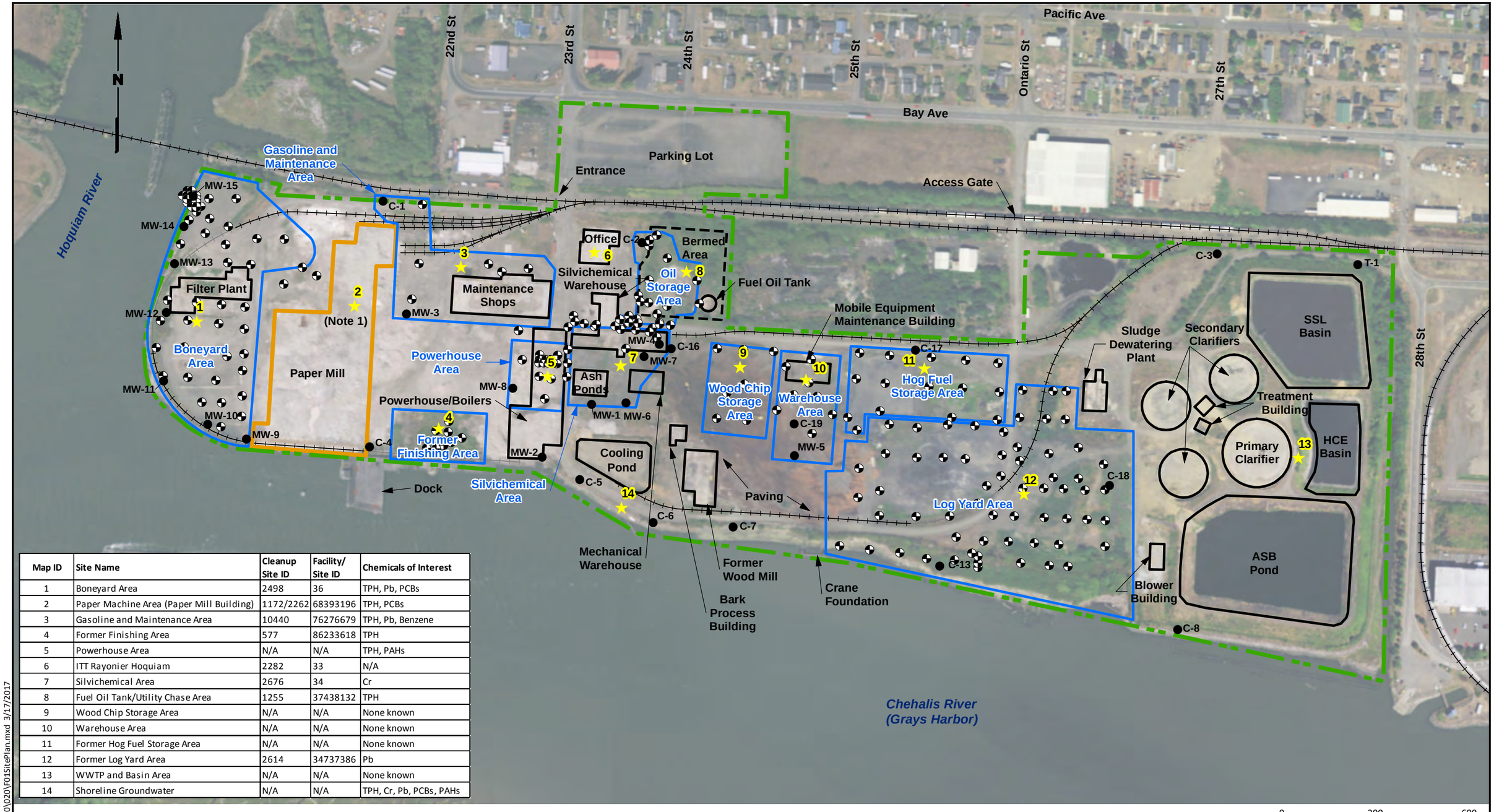

Map ID	Site Name	Cleanup Site ID	Facility/ Site ID	Chemicals of Interest
1	Boneyard Area	2498	36	TPH, Pb, PCBs
2	Paper Machine Area (Paper Mill Building)	1172/2262	68393196	TPH, PCBs
3	Gasoline and Maintenance Area	10440	76276679	TPH, Pb, Benzene
4	Former Finishing Area	577	86233618	TPH
5	Powerhouse Area	N/A	N/A	TPH, PAHs
6	ITT Rayonier Hoquiam	2282	33	N/A
7	Silvichemical Area	2676	34	Cr
8	Fuel Oil Tank/Utility Chase Area	1255	37438132	TPH
9	Wood Chip Storage Area	N/A	N/A	None known
10	Warehouse Area	N/A	N/A	None known
11	Former Hog Fuel Storage Area	N/A	N/A	None known
12	Former Log Yard Area	2614	34737386	Pb
13	WWTP and Basin Area	N/A	N/A	None known
14	Shoreline Groundwater	N/A	N/A	TPH, Cr, Pb, PCBs, PAHs

Notes
1. Previous sample locations in Paper Mill parcel not shown due to high density.
2. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend
- C-1 ● Historical Monitoring Well or Piezometer Location and Designation
- 1 ★ Ecology Facility/Site Identifier or Investigation Area
- ◔ Historical Soil Boring/Sample Location
- Lease Area
- Out Parcel
- Former Buildings or Structures
- Investigation Area
- Existing
- Removed or Covered

0 300 600
Scale in Feet

Data Source: Rayonier, Inc; Grays Harbor GIS 2013; Esri World Imagery 2015.

LANDAU ASSOCIATES

Rayonier AM Properties LLC Former Grays Harbor Paper Hoquiam, Washington	**Site Plan**	Figure 1

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Notes

1. Previous sample locations in Paper Mill parcel not shown due to high density.
2. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- C-1 ● Historical Monitoring Well or Piezometer Location and Designation
- ◐ Historical Soil Boring/Sample Location
- Extent of Historical Chemical Concentrations in Soil Exceeding MTCA Industrial Method A CUL
- Lease Area
- Grays Harbor Paper Mill
- Former Buildings or Structures
- Investigation Area
- Existing
- Removed or Covered

0 300 600

Scale in Feet

Data Source: Rayonier, Inc; Grays Harbor GIS 2013; Esri World Imagery 2015.

LANDAU ASSOCIATES

Rayonier AM Properties LLC Former Grays Harbor Paper Hoquiam, Washington	**Historical Data - Soil**	Figure 2

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Note

1. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- C-1 ● Historical Monitoring Well or Piezometer Location and Designation
- Monitoring Well with Consistent Historical Chemical Concentration Exceeding MTCA Method A CUL
- Monitoring Well with Limited Historical Chemical Concentration Exceeding MTCA Method A CUL
- Lease Area
- Grays Harbor Paper Mill
- Former Buildings or Structures
- Investigation Area
- Existing
- Removed or Covered

0 300 600

Scale in Feet

Data Source: Rayonier, Inc; Grays Harbor GIS 2013; Esri World Imagery 2015.

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LANDAU ASSOCIATES

Rayonier AM Properties LLC Former Grays Harbor Paper Hoquiam, Washington	**Historical Data - Groundwater**	Figure 3

Table 1
Current Environmental Conditions Summary
Former Grays Harbor Paper Mill Site
Hoquiam, Washington

Map ID	Site Name	Cleanup Site ID	Facility/ Site ID	Chemicals of Interest	Comments	Description of Previous Investigation	Current Conditions
Ecology Sites With NFA Closure							
1	Boneyard Area	2498	36	TPH, Cr, Pb, PAHs, PCBs	The area has an NFA determination from Ecology. Remedial excavations conducted for PCB and TPH contamination. Elevated TPH, PCB, lead, and chromium levels identified in soil and groundwater. Area capped; institutional controls in place.	37 soil borings (BY-1 through BY-37) across this area of the site; 16 additional borings (BY-3A through BY-3P) around the north end of the area used to direct a remedial excavation; and excavation base and sidewall samples from two remedial excavations. Seven groundwater monitoring wells (MW-9 through MW-15) installed. Soil samples were analyzed for lead, chromium, TPH-D/-O and PCBs. Analysis of groundwater samples collected on multiple occasions between 1993 and 1995.	The Boneyard Area received an Ecology NFA determination October 21, 1996. No further action recommended.
4**	Former Finishing Area	577	86233618	TPH	This area refers to the FORMER finishing area building that was demolished in the early 1990s that was located between the Paper Mill building and the Powerhouse Area. Remedial excavations conducted for TPH contamination.	After demolition in early 1990s, TPH contamination in soil identified; 19 test pits (TP-1 through TP-17, TP-9A, and TP-11A), 14 soil borings (B1 through B14) and soil analyzed for TPH-O and TPH-D to evaluate the extent; two remedial excavations removed approximately 950 cubic yards (approximately 1,425 tons) of TPH-contaminated soil.	The Former Finishing Area received an Ecology NFA determination October 31, 1996. No further action recommended.
7	Silvichemical Area	2676	34	Cr	This area refers to the silvichemical warehouse and bagging area and includes area to the north where historical investigations occurred. Elevated chromium levels identified in soil and groundwater.	26 soil borings (C-9, 10, -14, -15, -20, -21, -36 through -38, -40 through -51, -42A through -44A, and -51A) and 3 monitoring wells (MW-1, MW-6, and MW-7); analysis of soil samples collected from ground surface to 6.5 ft BGS for total and hexavalent chromium, TPH-G, TPH-D, TPH O, and BTEX; and analysis of groundwater samples collected from monitoring well MW-1, MW-6, and MW-7 and borings C-33, -34, & -35 once in 1993.	The Silvichemical Area received an Ecology NFA determination December 15, 1993. No further action recommended.
12	Former Log Yard Area	2614	34737386	TPH, Pb	This area refers to the open area west of the WWTP including current boiler/grate ash piles. Small area of lead contamination was historically identified and excavated.	57 soil borings (LS-1 through -57); analysis of soil samples collected from 2 to 13 ft BGS for lead, chromium, and TPH, PCBs, and PAHs; and analysis of groundwater samples collected from C-3 and C-8 between 1992 and 1995. Results identified lead in soil, remedial excavation removed approximately 80 cubic yards (approximately 120 tons) of lead-contaminated soil.	The Former Log Yard Area received an Ecology NFA determination October 23, 1996. No further action recommended.
Ecology Sites without Closure							
2*	Paper Mill Building/Paper Machine Area Grays Harbor Paper LP	1172 2262	68393196 44124741	TPH, PCBs	This area refers the Paper Mill Building, with past investigations conducted beneath Paper Machines #1 and #2. PCB and TPH contamination previously identified and excavated. Some residuals left near building foundations. Area is anticipated to be accessible after demolition activities are complete.	52 shallow soil locations (P-5 through -16, P-18 through -56, and P-21A) beneath the paper machine building which identified TPH-D, TPH-O, and PCB contamination, several remedial excavations were performed in 1995 below Paper Machine #1 and Paper Machine #2 that removed approximately 360 tons of TPH-contaminated soil and 279 tons of PCB-contaminated soil and wood debris; ~100 confirmation samples from the base and sidewalls.	Ecology was petitioned to issue an NFA determination for the Paper Mill Building / Paper Machines March 15, 1996.
3	Gasoline and Maintenance Area ITT Rayonier Inc Grays Harbor Division	10440	67276679	TPH, Benzene	This area refers to the maintenance shops and associated former UST(s) in the vicinity, designated as a LUST site. No exceedances of soil CULs for analytes (lead, total chromium, TPH-G,-D,-O, or BTEX); TPH-G,-D, -O, benzene, and total lead in groundwater over CUL, except benzene exceedance in soil from MW-3. Well MW-3 near gasoline UST.	8 soil borings (C-53 through -59 and MW-3), soil analysis for lead (15), chromium (15), TPH-G,-D,-O (15), and BTEX (15) collected from 0.5 to 5.5 ft BGS; groundwater samples collected on multiple occasions between 6/93 and 12/95.	Benzene concentrations exceeded cleanup levels in one soil sample. TPH-G, -D, -O, benzene and total lead exceeded cleanup levels in groundwater.
8	Fuel Oil Tank Area/Utility Chase Area	1255	37438132	TPH	Focused investigation may be appropriate near the fuel oil tank, which extends east of the area included in historical investigations. The area is otherwise reasonably characterized.	10 soil borings (LB-1 through LB-6, and LB-3N, LB-3S, LB-3E, and LB-3W) in the fuel oil tank containment area; 6 soil borings (UC-1 through UC-6) in the utility chase area, and 2 monitoring wells (C-2 and MW-4); analysis of soil samples collected from 1 to 10 ft BGS for TPH-D, TPH O, BTEX, and PAHs; and analysis of groundwater samples collected from monitoring wells C-2 and MW-4 on multiple occasions between 1992 and 1995. two remedial excavations removed 460 tons of TPH-contaminated soil.	Ecology was petitioned to issue an NFA determination for the Paper Mill Building / Paper Machines November 22, 1996.

Table 1
Current Environmental Conditions Summary
Former Grays Harbor Paper Mill Site
Hoquiam, Washington

Map ID	Site Name	Cleanup Site ID	Facility/ Site ID	Chemicals of Interest	Comments	Description of Previous Investigation	Current Conditions
Other Areas of Interest							
9	Wood Chip Storage Area	N/A	N/A	None known	No exceedances of soil CULs for analytes (lead, total chromium, TPH-D/-O); no rationale provided for analytes	8 soil borings (CS-1 through -8), soil analysis for lead (12), chromium (12), and TPH-D/-O (12) collected from 4 to 6 ft BGS.	No indications of contamination at the Wood Chip Storage Area.
5	Powerhouse Area	N/A	N/A	TPH, PAHs	This area refers to the Powerhouse and Boiler Area. Elevated TPH concentrations in a portion of the Powerhouse Area warrant a focused cleanup action.	15 soil borings (PH-1 through PH-6 and PH-8 through PH-16) and 2 monitoring well (MW-2 and MW-8); analysis of soil samples collected from 1 to 10.5 ft BGS for lead, TPH in the gasoline-range (TPH-G),	TPH-D/TPH-O concentrations remain in soil; the extent has been delineated.
10	Warehouse Area	N/A	N/A	PCBs, TPH	Area formerly used to store decommissioned electrical equipment and machinery that used PCBs. Diesel odors noted during drilling of piezometer C-19. No exceedances of soil	Investigation in truck turnaround area south of warehouse. 10 soil borings (W-1 through -9 and MW-5), soil analysis for lead (17), chromium (17), TPH-D/-O (12), and PCBs (4); 1 groundwater sample	No indications of contamination at the Warehouse Area.
11	Hog Fuel Storage Area	N/A	N/A	None known	No exceedances of soil CULs for analytes (lead, total chromium, TPH-O), TPH-D and TPH-O in groundwater over CUL; no rationale provided for analytes.	16 soil borings (HF-1 through -16), soil analysis for lead (23), chromium (23), and TPH-O (3) collected from 3.5 to 6 ft BGS; 1 groundwater sample from well C-17.	No indications of contamination at the Hog Fuel Storage Area.
13	Wastewater Treatment Plant and Basin Area	N/A	N/A	TPH, Cr (limited)	ASB solids have been removed by Grays Harbor PUD. Solids in SSL and HCE basins have not been characterized. Elevated TPH concentrations in groundwater. One chromium exceedance in a duplicate groundwater sample.	Two monitoring wells C-3 and C-8 installed and analysis of groundwater samples collected from on multiple occasions between 1992 and 1995.	TPH-D/TPH-O concentrations remain in groundwater.
14	Shoreline Groundwater	N/A	N/A	TPH, Cr (limited), Pb (limited), PCBs (limited), PAHs (limited)	Shoreline of site along Chehalis River. Groundwater conditions may have changed since data was last collected nearly 20 years ago. Current groundwater data will provide helpful context for prioritization of actions in other areas of the site.	Monitoring wells C-5, C-6, C-7, and C-13 (and C-8 WWTP area) installed and analysis of groundwater samples collected from on multiple occasions between 1992 and 1995.	Between 1992 and 1995, concentrations of TPH-D, -O, and lead exceeded MTCA Method A CULs.
Cleanup Sites not Described in the Current Environmental Conditions Report							
6	ITT Rayonier Hoquiam	2282	33		Site name may be a general reference to the overall site.		
N/A	Transformer Area	2236	58387754		This area refers to the facilities northwest of the main entrance. Although this is identified as a Rayonier cleanup site in Ecology's database, it is not currently owned by Rayonier and is not part of the contiguous property being evaluated herein. The Transformer Area is not discussed further in this Current Environmental Conditions Report.		
N/A	Veneer Plant	3030	35		This area refers to the facilities northwest of the main entrance. Although this is identified as a Rayonier cleanup site in Ecology's database, it is not currently owned by Rayonier and is not part of the contiguous property being evaluated herein. The Transformer Area is not discussed further in this Current Environmental Conditions Report.		
N/A	Western Wood Waste Area	3031	37		This area refers to the facilities northwest of the main entrance. Although this is identified as a Rayonier cleanup site in Ecology's database, it is not currently owned by Rayonier and is not part of the contiguous property being evaluated herein. The Transformer Area is not discussed further in this Current Environmental Conditions Report.		

Notes:

* The area is located within the 4-acre paper mill parcel.

Table 2
Areas of Interest - Historical Soil Analytical Results
Former Grays Harbor Paper Mill Site
Hoquiam, Washngton

Sample ID	Sample Deptl (ft)	Sample Location	Sample Date	Total Chromium (mg/kg)	Hexavalent Chromium (mg/kg)	Total Lead (mg/kg)	TPH-G (mg/kg)	TPH-418.1 (mg/kg)	TPH-D (mg/kg)	TPH-O (mg/kg)	Total PCBs (µg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Xylenes (mg/kg)	BTEX (mg/kg)	Acenaph-thene (mg/kg)	Anthra-cene (mg/kg)	Benzo(a) anthracene (mg/kg)	Benzo(a) pyrene (mg/kg)	Benzo(b) fluoranthene (mg/kg)	Benzo(g,h,i) perylene (mg/kg)	Benzo(k) fluoranthene (mg/kg)	Chrysene (mg/kg)	Dibenzo(a,h) anthracene (mg/kg)	Fluor-anthene (mg/kg)	Fluorene (mg/kg)	Indeno(1,2,3-cd) pyrene (mg/kg)	Naph-thalene (mg/kg)	Phen-anthrene (mg/kg)	Pyrene (mg/kg)	All Other PAHs (mg/kg)
Historical MTCA Method A Cleanup Level:				**100**	--	**1,000**	--	**200**	**200**	**200**	**10,000**	**0.5**	**40**	**20**	**20**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Historical MTCA Method B Cleanup Level:				**80,000**	**400**	--	--	--	--	--	**130**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Current MTCA Method A Industrial Cleanup Level:				**2,000**	**19**	**1,000**	**100/30 (c)**	**2,000**	**2,000**	**2,000**	**10,000**	**0.03**	**7**	**6**	**9**	--	--	--	--	**2**	--	--	--	--	--	--	--	--	--	**5**	--	--	--
Paper Machine Area																																	
W-1		sidewall	7/26/1995							<100																							
W-2		sidewall	7/26/1995							330																							
W-3		bottom	7/26/1995							<100																							
W-4		bottom	7/28/1995							<100																							
W-17		bottom	8/3/1995							<100																							
W-23	2.0	bottom	8/10/1995						920	320																							
W-30		sidewall	8/15/1995						**15,000**																								
W-34		sidewall	8/22/1995						130																								
W-36		sidewall	8/23/1995						180																								
W-38		sidewall	8/24/1995						**22,000**																								
W-39		sidewall	8/24/1995						84																								
W-42		sidewall	8/30/1995						30																								
W-46		sidewall	8/31/1995						85																								
W-48		sidewall	9/8/1995						250																								
E1	1.0	sidewall	8/7/1995							<100																							
E2	1.0	sidewall	8/7/1995							110																							
E3	1.5	bottom	8/7/1995						670	540																							
E4	2.5	bottom	8/15/1995						140																								
N1	1.5	bottom	8/8/1995							<100																							
TPH-1		sidewall	10/25/1995						120																								
TPH-2		sidewall	10/25/1995						<99																								
TPH-3		sidewall	10/25/1995						160																								
TPH-4		sidewall	10/25/1995						<100																								
TPH-6		sidewall	10/31/1995						120																								
TPH-7		sidewall	10/31/1995						110																								
TPH-8		sidewall	10/31/1995						140																								
TPH-9		sidewall	10/31/1995						100																								
TPH-11		sidewall	10/31/1995						130																								
TPH-12		sidewall	10/31/1995						470																								
TPH-13		sidewall	11/2/1995						120																								
TPH-15		sidewall	11/7/1995						**2,500**																								
PCB-1		bottom	10/12/1995						<100	5000																							
PCB-2		bottom	10/19/1995							2,400																							
PCB-3		bottom	10/25/1995							**12,000**																							
PCB-4		sidewall	9/13/1995						<94	<140																							
PCB-5		bottom	10/24/1995							1,000																							
PCB-6		bottom	8/28/1995						<84	370																							
PCB-8		bottom	10/25/1995							1,200																							
PCB-9		bottom	9/19/1995						<90	440																							
PCB-10		bottom	8/28/1995						<93		810																							
PCB-11		bottom	10/11/1995						140		990																							
PCB-13		bottom	9/7/1995						120		3,800																							
PCB-14		sidewall	9/7/1995						<90		<140																							
PCB-15		sidewall	9/7/1995						970		440																							
PCB-16		sidewall	9/7/1995						200		6,000																							
PCB-17		bottom	9/13/1995								<270																							
PCB-18		bottom	9/7/1995						<89		160																							
PCB-19		bottom	9/13/1995						<81		<130																							
PCB-20		bottom	9/7/1995						<120		4,700																							
PCB-21		bottom	10/24/1995								720																							
PCB-22		bottom	9/13/1995						170		1,100																							
PCB-23		bottom	9/13/1995						750		5,200																							
PCB-24		bottom	10/17/1995								5,900																							
PCB-25		sidewall	9/13/1995						350		1,500																							
PCB-26		bottom	10/11/1995						460		7,000																							
PCB-27		bottom	10/18/1995								5,300																							
PCB-30		bottom	9/21/1995						<89		<150																							
PCB-32		bottom	9/21/1995						<89		<150																							
PCB-39		bottom	10/18/1995								4,600																							
PCB-42		bottom	9/28/1995						160		<140																							
PCB-48		sidewall	10/4/1995						250		<150																							
PCB-49		sidewall	10/17/1995						<84		<130																							
PCB-50		bottom	10/23/1995								1,400																							
PCB-51		bottom	10/24/1995								<160																							
P-23b		bottom	9/12/1995						590		510																							
P-25		bottom	10/18/1995								8,600																							
P-27		sidewall	9/12/1995						120		2,200																							
P-29	0.5	bottom	8/3/1995								5,210																							
P-41		bottom	9/28/1995						380		1,800																							
P-46		bottom	10/4/1995						230		1,000																							
P-59		sidewall	9/12/1995						990		2,300																							
P-65		bottom	10/11/1995						1,600		5,700																							
P-66		bottom	9/8/1995						920		<210																							
P-67		bottom	6/8/1995						260		680																							

Table 2
Areas of Interest - Historical Soil Analytical Results
Former Grays Harbor Paper Mill Site
Hoquiam, Washngton

Sample ID	Sample Deptl (ft)	Sample Location	Sample Date	Total Chromium (mg/kg)	Hexavalent Chromium (mg/kg)	Total Lead (mg/kg)	TPH-G (mg/kg)	TPH-418.1 (mg/kg)	TPH-D (mg/kg)	TPH-O (mg/kg)	Total PCBs (µg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Xylenes (mg/kg)	BTEX (mg/kg)	Acenaph-thene (mg/kg)	Anthra-cene (mg/kg)	Benzo(a) anthracene (mg/kg)	Benzo(a) pyrene (mg/kg)	Benzo(b) fluoranthene (mg/kg)	Benzo(g,h,i) perylene (mg/kg)	Benzo(k) fluoranthene (mg/kg)	Chrysene (mg/kg)	Dibenzo(a,h) anthracene (mg/kg)	Fluor-anthene (mg/kg)	Fluorene (mg/kg)	Indeno(1,2,3-cd) pyrene (mg/kg)	Naph-thalene (mg/kg)	Phen-anthrene (mg/kg)	Pyrene (mg/kg)	All Other PAHs (mg/kg)
Historical MTCA Method A Cleanup Level:				**100**	--	**1,000**	--	**200**	**200**	**200**	**10,000**	**0.5**	**40**	**20**	**20**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Historical MTCA Method B Cleanup Level:				**80,000**	**400**	--	--	--	--	--	**130**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Current MTCA Method A Industrial Cleanup Level:				**2,000**	**19**	**1,000**	**100/30 (c)**	**2,000**	**2,000**	**2,000**	**10,000**	**0.03**	**7**	**6**	**9**	--	--	--	--	**2**	--	--	--	--	--	--	--	--	--	**5**	--	--	--
P-68	0.5	sidewall	9/12/1995						400		680																						
P-70		bottom	9/12/1995						530		<140																						
P-72		bottom	9/13/1995						600		<310																						
P-77		sidewall	9/21/1995						200		1,900																						
P-79		bottom	10/11/1995						**2,300**		**11,000**																						
Powerhouse Area																																	
PH-1	2.0		6/17/1993	94					**76,000**	**76,000**																							
PH-1	3.5		6/17/1993	91					**12,000**	**15,000**																							
PH-2	1.0		6/17/1993	92					180	640																							
PH-2	4.0		6/17/1993	31					14	39																							
PH-3	2.0		6/17/1993	79					150	440																							
PH-4	1.0		6/17/1993	62					44	82																							
PH-4	5.5		6/17/1993	41					10 U	34																							
PH-5	1.5		6/17/1993	630					**7,100**	**11,000**																							
PH-5	3.5		6/17/1993	88					**6,200**	**3,800**																							
PH-6	3.0		6/17/1993	43					**200,000**	**3,100**																							
PH-8	1.5		6/17/1993	70					150	400																							
PH-8	4.0		6/17/1993	32					10 U	46																							
MW-2	5.5		6/17/1993	23					120	140																							
MW-2	10.5		6/17/1993	20					17	60																							
MW-4	4.0		6/17/1993	56					10 U	49																							
MW-8	5.5		6/17/1993	10					12	31																							
PH-1	3.0		10/1/1993						**25,000**	**21,000**		0.050 U	0.050 U	0.050 U	0.10 U		ND	ND	37	**28**	ND	ND	ND	82	ND	ND	ND	ND	ND	32	86			
PH-2	2.0		10/1/1993						120	250		0.050 U	0.050 U	0.050 U	0.10 U		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
PH-3	1.5		10/1/1993						39	93		0.050 U	0.050 U	0.050 U	0.10 U		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
PH-4	2.0		10/1/1993						26	37		0.050 U	0.050 U	0.050 U	0.10 U		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
PH-5	2.5		10/1/1993						**3,200**	**2,500**		0.050 U	0.050 U	0.050 U	0.10 U		ND	ND	1.9	ND	ND	ND	ND	2.9	ND	ND	ND	ND	ND	ND	2.3			
PH-6	3.5		10/1/1993						**80,000**	**44,000**		0.050 U	0.050 U	0.050 U	0.251		ND	ND	37	ND	ND	ND	ND	73	ND	ND	ND	ND	ND	100	87			
PH-10	3.5		11/1/1993						56	180		0.05 U	0.05 U	0.05 U	0.10 U		ND	ND	0.21	ND	0.13	ND	ND	ND	ND	0.57	ND	ND	ND	ND	0.33			
PH-11	1.5		11/1/1993						**23,000**	**30,000**		0.05 U	0.05 U	0.05 U	0.10 U		ND	ND	ND	**33**	ND	20	ND	32	ND	ND	ND	ND	ND	ND	95			
PH-11	3.5		11/1/1993						**29,000**	**29,000**		0.05 U	0.05 U	0.05 U	0.10 U		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
PH-12	4.0		11/1/1993						**91,000**	**21,000**		0.05 U	0.26	0.32	2.7		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
PH-13	3.8		11/1/1993						**250,000**	**270,000**		**0.22**	1.0	1.6	**15**		ND	ND	350	**230**	ND	140	ND	370	ND	140	170	ND	ND	990	740			
PH-14	4.0		11/1/1993						900	1,600		0.05 U	0.05 U	0.05 U	0.10 U		ND	ND	ND	ND	0.84	ND	ND	3.1	ND	ND	ND	ND	ND	ND	ND			
PH-15	1.0		11/1/1993						34	120		0.05 U	0.05 U	0.05 U	0.10 U		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
PH-15	3.5		11/1/1993						11	52		0.05 U	0.05 U	0.05 U	0.10 U		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
PH-16	1.0		11/1/1993						10 U	42		0.05 U	0.05 U	0.05 U	0.10 U		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
PH-16	3.5		11/1/1993						10 U	27		0.05 U	0.05 U	0.05 U	0.10 U		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
Gasoline and Maintenance Area																																	
C-53	2.5		6/17/1993	1.0 U		5.8	1.0 U		10 U	25 U		0.050 U	0.050 U	0.050 U	0.10 U	ND																		
C-53	5.5		6/17/1993	1.0 U		79	4.4		270	490		0.050 U	0.050 U	0.050 U	0.10 U	ND																		
C-54	2.5		6/17/1993	1.0 U		57	1.0 U		310	260		0.050 U	0.050 U	0.050 U	0.10 U	ND																		
C-54	5.5		6/17/1993	1.0 U		43	1.0 U		220	690		0.050 U	0.050 U	0.050 U	0.10 U	ND																		
C-55	0.5		6/17/1993	1.0 U		44	1.0 U		98	450		0.050 U	0.050 U	0.050 U	0.10 U	ND																		
C-55	2.5		6/17/1993	1.0 U		32	1.0 U		11	68		0.050 U	0.050 U	0.050 U	0.10 U	ND																		
C-56	2.5		6/17/1993	1.0 U		5.0 U	1.0 U		10 U	37		0.050 U	0.050 U	0.050 U	0.10 U	ND																		
C-56	5.5		6/17/1993	1.0 U		10	21		470	410		0.050 U	0.050 U	0.050 U	0.10 U	ND																		
C-57	2.5		6/18/1993	1.0 U		8	1.0 U		70	110		0.050 U	0.050 U	0.050 U	0.10 U	ND																		
C-57	4.0		6/18/1993	1.0 U		5.0 U	1.0 U		48	110		0.050 U	0.050 U	0.050 U	0.10 U	ND																		
C-58	1.5		6/18/1993	1.0 U		230	1.0 U		39	220		0.050 U	0.050 U	0.050 U	0.10 U	ND																		
C-58	5.5		6/18/1993	1.0 U		36	1.0 U		10	49		0.050 U	0.050 U	0.050 U	0.10 U	ND																		
C-59	2.0		6/18/1993	1.0 U		5.0 U	1.0 U		16	40		0.050 U	0.050 U	0.050 U	0.10 U	ND																		
C-59	4.0		6/18/1993	1.0 U		5.0 U	1.0 U		10 U	33		0.050 U	0.050 U	0.050 U	0.10 U	ND																		
MW-3	3.5		6/17/1993	1.0 U		450	11		120	390		**0.18**	0.12	0.074	0.85	1.224 (b)																		
Oil Storage Area/Utility Chase Area																																	
LB-1	1		10/15-10/18/19	35		18			25 U	29		0.010 U	0.050 U	0.050 U	0.10 U				ND	ND				ND		ND				ND	ND	ND
LB-1	5		10/15-10/18/19	32		10 U			25 U	10 U		0.010 U	0.050 U	0.050 U	0.10 U				ND	ND				ND		ND				ND	ND	ND
LB-1	10		10/15-10/18/19	26		10 U			25 U	10 U		0.010 U	0.050 U	0.050 U	0.10 U				ND	ND				ND		ND				ND	ND	ND
LB-2	1		10/15-10/18/19	49		57			100	500		0.010 U	0.050 U	0.050 U	0.10 U				ND	ND				ND		0.32				ND	ND	ND
LB-2	5		10/15-10/18/19	26		10 U			25 U	10 U		0.010 U	0.050 U	0.050 U	0.10 U				ND	ND				ND		ND				ND	ND	ND
LB-2	10		10/15-10/18/19	26		10 U			25 U	10 U		0.010 U	0.050 U	0.050 U	0.10 U				ND	ND				ND		ND				ND	ND	ND
LB-4	1		10/15-10/18/19	23		10 U			25 U	10 U		0.010 U	0.050 U	0.050 U	0.10 U				ND	ND				ND		ND				ND	ND	ND
LB-4	3.5		10/15-10/18/19	19		37			12	31		0.010 U	0.050 U	0.050 U	0.10 U				ND	ND				ND		ND				ND	ND	ND
LB-4	6		10/15-10/18/19	24		10 U			12	10 U		0.010 U	0.050 U	0.050 U	0.10 U				ND	ND				ND		ND				ND	ND	ND
UC-1	1.5		10/18/1993						22	49		0.050 U	0.050 U	0.050 U	0.10 U				ND	ND				0.96		ND				ND		ND
UC-1	6		10/18/1993						25 U	10 U		0.050 U	0.050 U	0.050 U	0.10 U				ND	ND				ND		ND				ND		ND
UC-1	10		10/18/1993						12	10 U		0.050 U	0.050 U	0.050 U	0.10 U				ND	ND				ND		ND				ND		ND
UC-2	1.5		10/18/1993						10	30		0.050 U	0.050 U	0.050 U	0.10 U				ND	ND				ND		ND				ND		ND
UC-2	6.5		10/18/1993						25 U	10 U		0.050 U	0.050 U	0.050 U	0.10 U				ND	ND				ND		ND				ND		ND
UC-2	10		10/18/1993						11	31		0.050 U	0.050 U	0.050 U	0.10 U				ND	ND				ND		ND				ND		ND
UC-3	2		10/18/1993						81	260		0.050 U	0.050 U	0.050 U	0.10 U				ND	ND				ND		ND				ND		ND
UC-3	7		10/18/1993						22	99		0.050 U	0.050 U	0.050 U	0.10 U				ND	ND				ND		ND				ND		ND
UC-4	2		10/18/1993						25 U	10 U		0.050 U	0.050 U	0.050 U	0.10 U				ND	ND				ND		ND				ND		ND
UC-4	4		10/18/1993						25 U	10 U		0.050 U	0.050 U	0.050 U	0.10 U				ND	ND				ND		ND				ND		ND
UC-4	6.5		10/18/1993						25 U	10 U		0.050 U	0.050 U	0.050 U	0.10 U				ND	ND				ND		ND				ND		ND

Table 2
Areas of Interest - Historical Soil Analytical Results
Former Grays Harbor Paper Mill Site
Hoquiam, Washngton

Sample ID	Sample Deptl (ft)	Sample Location	Sample Date	Total Chromium (mg/kg)	Hexavalent Chromium (mg/kg)	Total Lead (mg/kg)	TPH-G (mg/kg)	TPH-418.1 (mg/kg)	TPH-D (mg/kg)	TPH-O (mg/kg)	Total PCBs (µg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Xylenes (mg/kg)	BTEX (mg/kg)	Acenaph-thene (mg/kg)	Anthra-cene (mg/kg)	Benzo(a) anthracene (mg/kg)	Benzo(a) pyrene (mg/kg)	Benzo(b) fluoranthene (mg/kg)	Benzo(g,h,i) perylene (mg/kg)	Benzo(k) fluoranthene (mg/kg)	Chrysene (mg/kg)	Dibenzo(a,h) anthracene (mg/kg)	Fluor-anthene (mg/kg)	Fluorene (mg/kg)	Indeno(1,2,3-cd) pyrene (mg/kg)	Naph-thalene (mg/kg)	Phen-anthrene (mg/kg)	Pyrene (mg/kg)	All Other PAHs (mg/kg)
Historical MTCA Method A Cleanup Level:				**100**	--	**1,000**	--	**200**	**200**	**200**	**10,000**	**0.5**	**40**	**20**	**20**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Historical MTCA Method B Cleanup Level:				**80,000**	**400**	--	--	--	--	--	**130**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Current MTCA Method A Industrial Cleanup Level:				**2,000**	**19**	**1,000**	**100/30 (c)**	**2,000**	**2,000**	**2,000**	**10,000**	**0.03**	**7**	**6**	**9**	--	--	--	--	**2**	--	--	--	--	--	--	--	--	--	**5**	--	--	--
UC-5	2		10/18/1993						1,100	**2,700**		0.050 U	0.050 U	0.050 U	0.10 U				ND	ND				ND		ND				ND		ND
UC-5	5		10/18/1993						25 U	49		0.050 U	0.050 U	0.050 U	0.10 U				0.89	ND				0.91		ND				ND		ND
UC-5	6.5		10/18/1993						570	**2,300**		0.050 U	0.050 U	0.060	0.50				ND	ND				ND		2.3				ND		ND
UC-6	3.5		10/19/1993						11	10 U		0.050 U	0.050 U	0.050 U	0.10 U				ND	ND				ND		ND				ND		ND
UC-6	6.5		10/19/1993						800	1,700		0.050 U	0.050 U	0.050 U	0.10 U				ND	0.13				0.46		ND				2.0		ND
UC-6	8		10/19/1993						25 U	10 U		0.050 U	0.050 U	0.050 U	0.10 U				ND	ND				ND		ND				ND		ND
E-1		Sidewall	9/30/1996						21.6	49.4																						
E-2		Sidewall	9/30/1996						42.3	85.6																						
E-3		Sidewall	9/30/1996						85.9	187																						
E-4		Base	9/30/1996						**7,230**	1,380																						
E-5		Sidewall	9/30/1996						51.8	176																						
Wood Chip Storage Area																																
CS-1	4.0		6/22/1993	18		5.0 U			10 U	32																						
CS-1	5.5		6/22/1993	16		5.0 U			10 U	25 U																						
CS-2	4.0		6/22/1993	15		5.0 U			10 U	25 U																						
CS-2	5.5		6/22/1993	20		5.0 U			10 U	25 U																						
CS-3	4.0		6/22/1993	22		5.0 U			10 U	25 U																						
CS-3	5.5		6/22/1993	21		5.0 U			10 U	25 U																						
CS-4	5.5		6/22/1993	22		5.0 U			10 U	25 U																						
CS-5	4.5		6/22/1993	17		5.0 U			10 U	25 U																						
CS-5	6.0		6/22/1993	16		5.0 U			10 U	25 U																						
CS-6	4.5		6/23/1993	22		5.0 U			10 U	25 U																						
CS-7	5.0		6/23/1993	23		5.0 U			14	25 U																						
CS-8	6.0		6/23/1993	23		5.0 U			10 U	25 U																						
Warehouse Area																																
W-1	3.5		6/22/1993	16		5.0 U			10 U	25 U																						
W-1	5.5		6/22/1993	19		5.0 U			10 U	25 U																						
W-2	3.5		6/22/1993	21		5.7			10 U	25 U																						
W-2	5.0		6/22/1993	23		5.0 U																										
W-3	3.0		6/22/1993	22		5.0 U			10 U	25 U	170 U																					
W-3	4.5		6/22/1993	15		5.0 U																										
W-4	3.0		6/22/1993	13		5.0 U			10 U	25 U																						
W-4	4.5		6/22/1993	18		5.0 U																										
W-5	4.0		6/22/1993	20		5.0 U			10 U	25 U																						
W-5	5.5		6/22/1993	16		5.0 U																										
W-6	3.0		6/22/1993	21		5.0 U			10 U	25 U																						
W-6	4.5		6/22/1993	23		5.0 U			10 U	25 U	170 U																					
W-7	3.0		6/22/1993	17		5.0 U			10 U	25 U																						
W-7	4.5		6/22/1993	17		5.0 U																										
W-8	4.0		6/23/1993	15		5.0 U			10 U	25 U	170 U																					
W-8	5.5		6/23/1993	62		5.0 U																										
W-9	3.0		6/23/1993	21		5.0 U			10 U	25 U	170 U																					
MW-5	4.5		6/23/1993	24		5.0 U			10 U	25 U																						
Hog Fuel Area																																
HF-1	3.5		6/23/1993	23		5.0 U																										
HF-1	5.5		6/23/1993	33		7.9																										
HF-2	4.0		6/23/1993	22		5.0 U																										
HF-2	5.5		6/23/1993	23		5.0 U																										
HF-3	4.0		6/23/1993	16		5.0 U																										
HF-3	5.5		6/23/1993	16		5.0 U																										
HF-4	5.5		6/23/1993	26		5.0 U																										
HF-5	5.5		6/23/1993	59		150																										
HF-6	4.5		6/23/1993	7.3		6.5																										
HF-7	6.5		6/23/1993	16		64																										
HF-8	4.0		6/23/1993	7.6		15																										
HF-9	4.5		6/23/1993	56		140																										
HF-10	6.0		6/23/1993	50		78																										
HF-12	3.0		6/23/1993	4.4		5.0 U																										
HF-12	4.5		6/23/1993	30		21																										
HF-12	6.0		6/23/1993	140		150																										
HF-13	4.5		6/23/1993	23		7																										
HF-13	6.0		6/23/1993	18		5.0 U																										
HF-14	4.0		6/23/1993	27		34		100 U																								
HF-14	5.5		6/23/1993	54		5.0 U																										
HF-15	4.0		6/23/1993	15		5.0 U		100 U																								
HF-15	5.5		6/23/1993	16		5.0 U		100 U																								
HF-16	5.5		6/23/1993	19		5.0 U																										

Notes:

(a) = Elevated detection limits (see laboratory report).

(b) = Represents cumulative total of BTEX compounds.

(c) = Method A cleanup level is 100 mg/kg if no benzene is present; if benzene is present, the cleanup level is 30 mg/kg.

(d) = Split sample results from different labs.

ND = Specific reporting limits not available.

Bold = Exceedance of current cleanup level.

U = The compound was undetected at the reported concentration.

Table 3
Areas of Interest - Historical Groundwater Analytical Results
Former Grays Harbor Paper Mill Site
Hoquiam, Washington

Sample ID	Sample Date	Total Chromium (µg/L)	Dissolved Chromium (µg/L)	Hexavalent Chromium (µg/L)	Total Lead (µg/L)	Dissolved Lead (µg/L)	ICAP Metals (µg/L)	TPH-G (µg/L)	TPH-418.1 (µg/L)	TPH-D (µg/L)	TPH-O (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	BTEX (µg/L)	Total PAHs (µg/L)	Total PCBs (µg/L)	Acetone (µg/L)	2-Butanone (µg/L)	Chloro-methane (µg/L)	1,1,1-Trichloroethane (µg/L)	Chloroform (µg/L)	Other VOCs (µg/L)	Phenol (µg/L)	Benzoic Acid (µg/L)	SVOCs (µg/L)
Historical MTCA Method A Cleanup Level:		**50**	--	--	**5**	--	--	**1,000**	**1,000**	**1,000**	**1,000**	**5**	**40**	**700**	**20**	--	**0.1 (c)**	**0.1**	--	--	--	--	--	--	--	--	--
Historical MTCA Method B Surface Water Cleanup Level:		**162,000 (e)**	--	**810**	--	--	--	**1,000**	--	--	--	**43**	**48,500**	**6,910**	--	--	**0.0296 (d)**	**0.0000275**	--	--	--	--	--	--	--	--	--
Current MTCA Method A Cleanup Level:		**50 (h)**	--	--	**15**	--	--	**1,000/800 (f)**	**500**	**500**	**500**	**5**	**1,000**	**700**	**1,000**	--	**0.1**	**0.1**	--	--	--	**200**	--	--	--	--	--
Gasoline and Maintenance Area																											
C-1	6/24/1992	10 U			2.0 U		ND (b)			250 U								2.5 U	26	35	0.020 U	0.020 U	0.050 U		2.0 U	10 U	
C-1	12/30/1993									400	750 U																
C-1	4/27/1994									260	750 U					ND	ND										
C-1	6/23/1994									250 U	750 U					ND	ND										
C-1	9/29/1994				**160**	2.0 U		50 U		440	750 U					ND	ND										
C-1	12/13/1994				**67**	2.0 U		50 U		250 U	750 U					ND											
C-1	3/23/1995							50 U								ND											
C-1	6/14/1995							50 U								ND											
C-1	9/27/1995							50 U								ND											
C-1	12/14/1995				2.0 U					240	750 U																
MW-3	6/22/1993				**27**	2.0 U		**7,100**		**1,700**	750 U	**620**	50	120	850												
MW-3	12/30/1993				**31**	2.0 U		**1,100**		**1,000**	750 U	**780**	6.9	4.9	98.0												
MW-3	4/27/1994				**16**	2.0 U		**1,000**		**710**	750 U	**390**	5.7	9.7	95.0												
MW-3	6/23/1994				12	2.0 U		**2,500**		**750**	**750**	**430**	8.5	9.5	160												
MW-3	9/29/1994				6.7	2.0 U		730				**810**	5.0	2.8	44												
MW-3	12/13/1994				8.8	2.0 U		**5,100**				**160**	11	200	280												
MW-3	3/22/1995				10	2.0 U		**5,700**				**150**	9.9	120	120												
MW-3	6/14/1995				2.0 U	2.0 U		**4,700**				**260**	6.8	36	230												
MW-3	9/27/1995				2.0 U	2.0 U		**980**				**260**	2.8	1.1	23												
MW-3	12/14/1995				2.0 U			**1,200**				**100**	4.3	19	19												
Powerhouse Area																											
MW-2	6/22/1993	20 U	20 U							**1,900**	750 U								10.0 U					ND			ND
MW-2	10/14/1993									**870**	750 U						ND										
MW-2	12/29/1993									**530**	750 U						ND										
MW-2	4/27/1994									260	750 U					ND	ND										
MW-2	6/22/1994									250 U	750 U					ND	ND										
MW-2	9/29/1994									330	750 U					ND	ND										
MW-2	12/13/1994									270	750 U					ND	ND										
MW-2	3/23/1995									**700**	**830**						ND										
MW-2	6/14/1995									**1,600**	**1,000**						ND										
MW-2	9/27/1995									(a)	860 (a)						ND										
MW-2	12/14/1995									**520**	**980**																
MW-8	6/30/1993	**300**	280							**1,000**	**1,200**																
MW-8	10/14/1993									**1,100**	750 U						ND										
MW-8	12/29/1993									**1,100**	750 U						ND										
MW-8	4/27/1994									**930**	750 U					ND	ND										
MW-8	6/22/1994																										
MW-8	9/29/1994									**1,000**	**1,400**					ND	ND										
MW-8	12/13/1994									**960**	750 U					ND	**0.76**										
MW-8	3/22/1995									**910**	**3,700**						ND										
MW-8	6/14/1995									**990**	**790**						ND										
MW-8	9/27/1995									(a)	1,300 (a)						ND										
MW-8	12/14/1995									**860**	**540**						ND										
Oil Storage Area/Utility Chase Area																											
MW-4	6/22/1993	**110**	20 U							**1,800**	750 U																
MW-4	12/30/1993									360	750 U																
MW-4	4/27/1994									360	750 U					ND	**0.19**										
MW-4	6/22/1994									250 U	750 U					ND	ND										
MW-4	9/29/1994									370	750 U					0.50	ND										
MW-4	12/13/1994									**900**	**910**					0.50	**0.3**										
MW-4	3/23/1995							50 U		260	**850**					ND	ND										
MW-4	6/14/1995							50 U		250 U	750 U					ND	ND										
MW-4	9/27/1995							50 U		(a)	**530 (a)**					ND	ND										
MW-4	12/13/1995									330	220					ND	ND										
C-2	6/24/1992	10 U			2.0 U		ND (b)			250 U								2.5 U	20	0.020 U	3.2	0.020 U	0.050 U		2.0 U	10 U	
C-2	12/30/1993									340	750 U																
C-2	4/28/1994									270	750 U					ND	ND										
C-2	6/23/1994									250 U	750 U					ND	ND										
C-2	9/29/1994									250 U	750 U																
C-2	12/13/1994									250 U	750 U																
C-2	3/23/1995									250 U	750 U																
C-2	6/14/1995									250 U	750 U																
C-2	9/27/1995									(a)	750 U (a)																
C-2	12/14/1995									220	750 U																
Warehouse Area																											
MW-5	6/30/1993	250 U	250 U		2.0 U	2.0 U				250 U	750 U																
C-19 (piezometer)																											

Table 3
Areas of Interest - Historical Groundwater Analytical Results
Former Grays Harbor Paper Mill Site
Hoquiam, Washington

Sample ID	Sample Date	Total Chromium (µg/L)	Dissolved Chromium (µg/L)	Hexavalent Chromium (µg/L)	Total Lead (µg/L)	Dissolved Lead (µg/L)	ICAP Metals (µg/L)	TPH-G (µg/L)	TPH-418.1 (µg/L)	TPH-D (µg/L)	TPH-O (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	BTEX (µg/L)	Total PAHs (µg/L)	Total PCBs (µg/L)	Acetone (µg/L)	2-Butanone (µg/L)	Chloro-methane (µg/L)	1,1,1-Trichloroethane (µg/L)	Chloroform (µg/L)	Other VOCs (µg/L)	Phenol (µg/L)	Benzoic Acid (µg/L)	SVOCs (µg/L)
Historical MTCA Method A Cleanup Level:		**50**	--	--	**5**	--	--	**1,000**	**1,000**	**1,000**	**1,000**	**5**	**40**	**700**	**20**	--	**0.1 (c)**	**0.1**	--	--	--	--	--	--	--	--	--
Historical MTCA Method B Surface Water Cleanup Level:		**162,000 (e)**	--	**810**	--	--	--	**1,000**	--	--	--	**43**	**48,500**	**6,910**	--	--	**0.0296 (d)**	**0.0000275**	--	--	--	--	--	--	--	--	--
Current MTCA Method A Cleanup Level:		**50 (h)**	--	--	**15**	--	--	**1,000/800 (f)**	**500**	**500**	**500**	**5**	**1,000**	**700**	**1,000**	--	**0.1**	**0.1**	--	--	--	**200**	--	--	--	--	--
Hog Fuel Storage Area																											
C-17	6/24/1992																										
C-17	9/1/1992		10 U	ND	14					**770**																	
C-17	6/22/1993	10 U	10 U		2.4	2.0 U				**2,100**	750 U								10.0 U					ND			ND
C-17	12/30/1993				3.9	2.0 U				**680**	750 U																
C-17	4/28/1994				2.0 U	2.0 U				430	750 U					ND	ND										
C-17	6/22/1994				2.5	2.0 U				410	750 U					ND	ND										
C-17	9/29/1994				5.4	2.0 U				**630**	**1,100**						ND										
C-17	12/13/1994				14	2.0 U				400	750 U						ND										
C-17	3/23/1995				3.9	2.0 U																					
C-17	6/14/1995				8.5	2.0 U																					
C-17	9/27/1995				2.0 U	2.0 U																					
C-17	12/13/1995				2.0 U																						
WWTP & Basin Area																											
C-3	6/24/1992	10 U			2.0 U		ND (b)			250 U								2.5 U	37	47	0.020 U	0.020 U	0.050 U		2.0 U	10 U	
C-3	12/30/1993									420	750 U																
C-3	4/28/1994									280	750 U					ND	ND										
C-3	6/22/1994									250 U	750 U					ND	ND										
C-3	9/29/1994									330	750 U																
C-3	12/13/1994									350	750 U																
C-3	3/23/1995									280	750 U																
C-3	6/14/1995									340	750 U																
C-3	9/27/1995									(a)	**540 (a)**																
C-3	12/13/1995									270	750 U																
T-1 (piezometer)																											
Shoreline Area																											
C-4	6/24/1992	10 U			2.0 U		ND (b)			250 U								2.5 U	25	41	0.020 U	0.020 U	0.050 U		2.0 U	10 U	
C-4	9/1/1992		10 U	ND																							
C-4	6/22/1993	10 U	10 U		2.0 U	2.0 U				**760**	750 U								13					ND			ND
C-4	12/30/1993									**920**	750 U																
C-4	4/27/1994									250 U	750 U					ND	ND										
C-4	6/23/1994									250 U	750 U					ND	ND										
C-4	9/29/1994				**43**	2.0 U		50 U		400	**860**					ND	ND	ND									
C-4	12/13/1994				2.0 U	2.0 U		50 U		250 U	750 U					ND		ND									
C-4	3/23/1995				9.9	2.0 U		50 U		250 U	750 U					ND		ND									
C-4	6/14/1995				5.7	2.0 U		50 U		250 U	750 U					ND		ND									
C-4	9/27/1995				2.0 U	2.0 U		50 U		(a)	750 U (a)					ND		ND									
C-4	12/14/1995				2.0 U					220	750 U																
C-5	6/24/1992									250 U						ND		2.5 U	27	110	0.020 U	0.020 U	0.050 U		2.0 U	10 U	
C-5	9/1/1992																										
C-5	6/22/1993	ND	ND		ND	ND				**2,200**	750 U					ND			10					ND			ND
C-5	10/15/1993									250 U	750 U						ND										
C-5	12/29/1993									**2,100**	750 U						ND										
C-5	4/27/1994									300	750 U					ND	ND										
C-5	6/22/1994									250 U	750 U					ND	ND										
C-5	9/29/1994									260	750 U					ND	ND										
C-5	12/13/1994									250 U	750 U					ND	ND										
C-5	3/23/1995									310	**1,100**						ND										
C-5	6/14/1995									**640**	750 U						ND										
C-5	9/27/1995									(a)	750 U (a)						ND										
C-5	12/13/1995									180	42																
C-6	6/24/1992	10 U			2.0 U		ND (b)			250 U								2.5 U	15	0.020 U	0.020 U	0.020 U	0.050 U		2.2	15	
C-6	9/1/1992		10 U	ND																							
C-6	6/22/1993	10 U	10 U		2.0 U	2.0 U				**680**	750 U								10.0 U					ND			ND
C-6	12/30/1993									340	750 U																
C-6	4/27/1994									300	750 U					ND	ND										
C-6	6/23/1994									250 U	750 U					ND	ND										
C-6	9/29/1994									470	**870**																
C-6	12/13/1994									300	750 U																
C-6	3/23/1995									250 U	750 U																
C-6	6/14/1995									290	750 U																
C-6	9/27/1995									(a)	**690 (a)**																
C-6	12/14/1995																										
C-7	6/24/1992	10 U			2.0 U		ND (b)			250 U								2.5 U	1.0 U	0.020 U	3.7	0.020 U	0.050 U		2.0 U	10 U	
C-7	9/1/1992		10 U	ND																							
C-7	6/22/1993	10 U	10 U		2.0 U	2.0 U				300	750 U								10.0 U					ND			ND
C-7	12/30/1993									270	750 U																
C-7	4/28/1994									330	750 U					ND	ND										
C-7	6/23/1994									250 U	750 U					ND	ND										
C-7	9/29/1994									**4,600**	**6,300**						ND										
C-7	12/13/1994									250 U	750 U						ND										
C-7	3/23/1995									250 U	750 U						ND										
C-7	6/14/1995									270	750 U						ND										
C-7	9/27/1995									(a)	750 U (a)						ND										
C-7	12/14/1995									310	750 U						ND										

Table 3
Areas of Interest - Historical Groundwater Analytical Results
Former Grays Harbor Paper Mill Site
Hoquiam, Washington

Sample ID	Sample Date	Total Chromium (µg/L)	Dissolved Chromium (µg/L)	Hexavalent Chromium (µg/L)	Total Lead (µg/L)	Dissolved Lead (µg/L)	ICAP Metals (µg/L)	TPH-G (µg/L)	TPH-418.1 (µg/L)	TPH-D (µg/L)	TPH-O (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	BTEX (µg/L)	Total PAHs (µg/L)	Total PCBs (µg/L)	Acetone (µg/L)	2-Butanone (µg/L)	Chloro-methane (µg/L)	1,1,1-Trichloroethane (µg/L)	Chloroform (µg/L)	Other VOCs (µg/L)	Phenol (µg/L)	Benzoic Acid (µg/L)	SVOCs (µg/L)
Historical MTCA Method A Cleanup Level:		**50**	--	--	**5**	--	--	**1,000**	**1,000**	**1,000**	**1,000**	**5**	**40**	**700**	**20**	--	**0.1 (c)**	**0.1**	--	--	--	--	--	--	--	--	--
Historical MTCA Method B Surface Water Cleanup Level:		**162,000 (e)**	--	**810**	--	--	--	**1,000**	--	--	--	**43**	**48,500**	**6,910**	--	--	**0.0296 (d)**	**0.0000275**	--	--	--	--	--	--	--	--	--
Current MTCA Method A Cleanup Level:		**50 (h)**	--	--	**15**	--	--	**1,000/800 (f)**	**500**	**500**	**500**	**5**	**1,000**	**700**	**1,000**	--	**0.1**	**0.1**	--	--	--	**200**	--	--	--	--	--
C-8	6/24/1992	10 U			2.0 U		ND (b)			250 U								2.5 U	16	0.020 U	0.020 U	0.020 U	0.050 U		2.0 U	10 U	
C-8	9/1/1992		10 U	ND																							
C-8	6/22/1993	10 U	10 U		2.0 U	2.0 U				**1,000**	750 U								10.0 U					ND			ND
C-8	12/30/1993				3.3	2.0 U				**520**	750 U																
C-8	4/28/1994				2.0 U	3.2				410	750 U					ND	ND										
C-8	6/22/1994	11	10 U		6.1	2.0 U				290	750 U					ND	ND										
C-8	9/29/1994				4.9	2.0 U				400	750 U																
C-8	12/13/1994				9.4	2.0 U				**740**	**1,100**																
C-8	3/23/1995				2.0 U	2.0 U																					
C-8	6/14/1995				2.0 U	2.0 U																					
C-8	9/27/1995				2.0 U	2.0 U																					
C-8	12/13/1995				2.0 U																						
MW-9	11/3/1993	**110**	3.3		**150**	2.0 U			**3,300**								ND	0.10 U									
MW-9	12/29/1993				**22**	22			1,000 U																		
MW-9	4/27/1994				**120**	2.0 U			**2,500**								ND										
MW-9	6/23/1994				3.8	2.0 U			1,000 U																		
MW-9	9/29/1994				**130**	2.0 U			**2,200**	**680**	**4,700**						ND	0.10 U									
MW-9	12/12/1994				**37**	2.0 U				250 U	**980**						ND	0.10 U									
MW-9	3/22/1995				**55**	2.0 U				320	**1,300**							0.10 U									
MW-9	6/14/1995				**30**	2.0 U				330	**1,200**						ND	0.10 U									
MW-9	9/26/1995				2.0 U	50				(a)	750 U (a)						ND	0.10 U									
MW-9	12/14/1995				2.0 U	2.0 U				250 U	750 U																
MW-10	11/3/1993	12	3.0 U		9.3	2.0 U			1,000 U								ND	0.10 U									
MW-10	4/27/1994				2.7	2.0 U			1,000 U								ND										
MW-10	6/23/1994				9.6	2.0 U			1,000 U																		
MW-10	9/29/1994				**89**	2.0 U				**740**	**2,700**							0.10 U									
MW-10	12/12/1994				**87**	2.0 U				500	750 U						ND	0.10 U									
MW-10	3/22/1995				**73**	2.0 U				**1,600**	**2,600**							0.10 U									
MW-10	6/14/1995				**16**	2.0 U				250 U	750 U							0.10 U									
MW-10	9/26/1995				2.0 U	2.0 U				(a)	750 U (a)							0.10 U									
MW-10	12/14/1995				2.0 U					**820**	**510**																
MW-11	11/3/1993	**56**	4.5		**40**	2.0 U			1,000 U								ND	0.10 U									
MW-11	11/3/1993	44	4.0		**35**	2.0 U			1,000 U								ND	0.10									
MW-11	4/27/1994				4	2.0 U			1,000 U								ND										
MW-11	6/23/1994				11	2.0 U			1,000 U								ND										
MW-11	9/29/1994				5.0	2.0 U				400	**2,000**							0.10 U									
MW-11	12/12/1994				**32**	2.0 U				250 U	**830**						**ND - 0.28**	0.10 U									
MW-11	3/22/1995				**37**	2.0 U				250 U	750 U						ND	0.10 U									
MW-11	6/14/1995				2.0 U	2.0 U				250 U	750 U						ND	0.10 U									
MW-11	9/26/1995				2.0 U	2.0 U				(a)	750 U (a)						ND	0.10 U									
MW-11	12/14/1995				2.0 U					250 U	750 U																
MW-12	11/3/1993	31	3.5		9.7	2.0 U			1,000 U								ND	0.10 U									
MW-12	4/27/1994				**20**	2.0 U			1,000 U								ND										
MW-12	6/23/1994				10	2.0 U			1,000 U								ND										
MW-12	9/29/1994				10	2.0 U				270	**1,200**							0.10 U									
MW-12	12/12/1994				8.0	2.0 U				250 U	750 U							0.10 U									
MW-12	3/22/1995				15	2.0 U				250 U	750 U							0.10 U									
MW-12	6/14/1995				2.0 U	2.0 U				250 U	750 U							0.10 U									
MW-12	9/26/1995				2.0 U	2.0 U				(a)	750 U (a)							0.10 U									
MW-12	12/14/1995				2.0 U					250 U	750 U																
MW-13	11/3/1993	**320**	5.8		**2,200**	2.0 U			**1,100**								**ND - 11**	0.10 U									
MW-13	12/29/1993				3.9	2.0 U			1,000 U																		
MW-13	4/27/1994				**97**	2.0 U			1,000 U								**ND - 0.16**										
MW-13	6/23/1994				2.0 U	2.0 U			1,000 U								ND										
MW-13	9/29/1994				**1,200**	2.0 U			1,000 U	330	**1,200**						ND	0.10 U									
MW-13	12/12/1994				**47**	2.0 U				250 U	750 U						ND	0.10 U									
MW-13	3/22/1995				**160**	2.0 U				340	750 U						ND	0.10 U									
MW-13	6/14/1995				**41**	2.0 U				250 U	750 U						ND	0.10 U									
MW-13	9/26/1995				**100**	2.0 U				(a)	750 U (a)						**0.12**	0.10 U									
MW-13	12/14/1995				2.0 U					250 U	750 U						ND										
MW-14	11/3/1993	**78**	4.7		**96**	2.0 U			1,000 U								ND	**0.30**									
MW-14	12/29/1993																	**0.13**									
MW-14	4/27/1994				5.6	2.0 U			1,000 U								ND	0.10 U									
MW-14	6/23/1994				2.0 U	2.0 U			1,000 U								ND	0.10 U									
MW-14	9/29/1994				2.3	2.0 U				250 U	**810**							0.10 U									
MW-14	12/12/1994				4.1	2.0 U				250 U	750 U							0.10 U									
MW-14	3/22/1995				4.9	2.0 U				250 U	750 U							0.10 U									
MW-14	6/14/1995				2.0 U	2.0 U				250 U	750 U							0.10 U									
MW-14	9/26/1995				2.0 U	70				(a)	**880 (a)**							0.10 U									
MW-14	12/14/1995				2.0 U	2.0 U				250 U	750 U																

Table 3
Areas of Interest - Historical Groundwater Analytical Results
Former Grays Harbor Paper Mill Site
Hoquiam, Washington

Sample ID	Sample Date	Total Chromium (µg/L)	Dissolved Chromium (µg/L)	Hexavalent Chromium (µg/L)	Total Lead (µg/L)	Dissolved Lead (µg/L)	ICAP Metals (µg/L)	TPH-G (µg/L)	TPH-418.1 (µg/L)	TPH-D (µg/L)	TPH-O (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	BTEX (µg/L)	Total PAHs (µg/L)	Total PCBs (µg/L)	Acetone (µg/L)	2-Butanone (µg/L)	Chloro-methane (µg/L)	1,1,1-Trichloroethane (µg/L)	Chloroform (µg/L)	Other VOCs (µg/L)	Phenol (µg/L)	Benzoic Acid (µg/L)	SVOCs (µg/L)
Historical MTCA Method A Cleanup Level:		**50**	**--**	**--**	**5**	**--**	**--**	**1,000**	**1,000**	**1,000**	**1,000**	**5**	**40**	**700**	**20**	**--**	**0.1 (c)**	**0.1**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
Historical MTCA Method B Surface Water Cleanup Level:		**162,000 (e)**	**--**	**810**	**--**	**--**	**--**	**1,000**	**--**	**--**	**--**	**43**	**48,500**	**6,910**	**--**	**--**	**0.0296 (d)**	**0.0000275**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
Current MTCA Method A Cleanup Level:		**50 (h)**	**--**	**--**	**15**	**--**	**--**	**1,000/800 (f)**	**500**	**500**	**500**	**5**	**1,000**	**700**	**1,000**	**--**	**0.1**	**0.1**	**--**	**--**	**--**	**200**	**--**	**--**	**--**	**--**	**--**
MW-15	11/3/1993	23	3.0 U		**31**	2.0 U			1,000 U								ND	**0.30**									
MW-15	12/29/1993																	**0.13**									
MW-15	4/27/1994				6.8	2.0 U			1,000 U								ND	**0.15**									
MW-15	6/23/1994				**17**	2.0 U			1,000 U								ND	**0.11**									
MW-15	9/29/1994				**300**	2.0 U				**540**	**1,800**							**0.44**									
MW-15	12/12/1994				**87**	2.0 U				250 U	750 U						ND	**0.26**									
MW-15	3/22/1995				**26**	2.0 U				460	750 U							**0.11**									
MW-15	6/14/1995				2.0 U	2.0 U				250 U	750 U							**0.11**									
MW-15	9/26/1995				2.0 U	50				(a)	**970 (a)**							0.10 U									
MW-15	12/14/1995				2.0 U	2.0 U				250 U	750 U							0.10 U									

Notes:
(a) = Diesel extended results reported as TPH diesel and oil combined.
(b) = One or more of the following analytes were detected above the laboratory reporting limits: aluminum, calcium, iron, magnesium.
(c) = Includes all PAH analytes.
(d) = Cleanup level from sum of all carcinogenic PAHs.
(e) = Cleanup level is for trivalent chromium.
(f) = Method A Cleanup Level is 1000 ug/L if no benzene is present; if benzene is present, the cleanup level is 800 ug/L.
(g) = Grab samples from soil borings, report and lab reports not available, results summarized from subsequent report.
(h) Cleanup level for chromium in groundwater is 100 µg/L if only Cr(III) is present.
ND = Specific reporting limits not available.
Data in historical table are reported as ppb, but appears to be ppm (TPH-D was reported in ppm, and appears consistent with other data); data are shown here as converted from ppm to ppb.
Bold = Exceedance of current cleanup level.
U = The compound was undetected at the reported concentration.

APPENDIX A

Certified Sanborn® Map Reports

Hoquiam Mill
23rd St / Ontario St
Hoquiam, WA 98550

Inquiry Number: 3717312.1
September 05, 2013

Certified Sanborn® Map Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

9/05/13

Site Name:
Hoquiam Mill
23rd St / Ontario St
Hoquiam, WA 98550

Client Name:
Landau Associates, Inc.
130 Second Avenue South
Edmonds, WA 98020

EDR Inquiry # 3717312.1

Contact: Mark Brunner

EDR® Environmental Data Resources Inc

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Certified Sanborn Results:

Site Name: Hoquiam Mill
Address: 23rd St / Ontario St
City, State, Zip: Hoquiam, WA 98550
Cross Street:
P.O. # 0016046.010.011
Project: Rayonier/ Grays Harbor Paper
Certification # CAC5-4C9A-9B39

Maps Provided:

1969
1948
1928
1916
1907

Sanborn® Library search results
Certification # CAC5-4C9A-9B39

The Sanborn Library includes more than 1.2 million Sanborn fire insurance maps, which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

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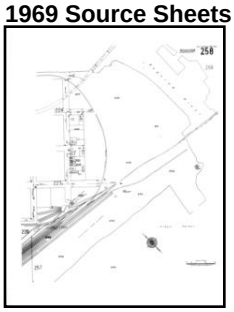
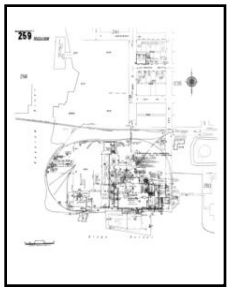
Sanborn Sheet Thumbnails

This Certified Sanborn Map Report is based upon the following Sanborn Fire Insurance map sheets.

1969 Source Sheets



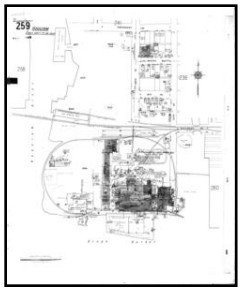
Volume 2, Sheet 258



Volume 2, Sheet 259

1948 Source Sheets

Volume 2, Sheet 258



Volume 2, Sheet 259

1928 Source Sheets

Volume 2, Sheet 258

Volume 2, Sheet 259

1916 Source Sheets

Volume 1, Sheet 30

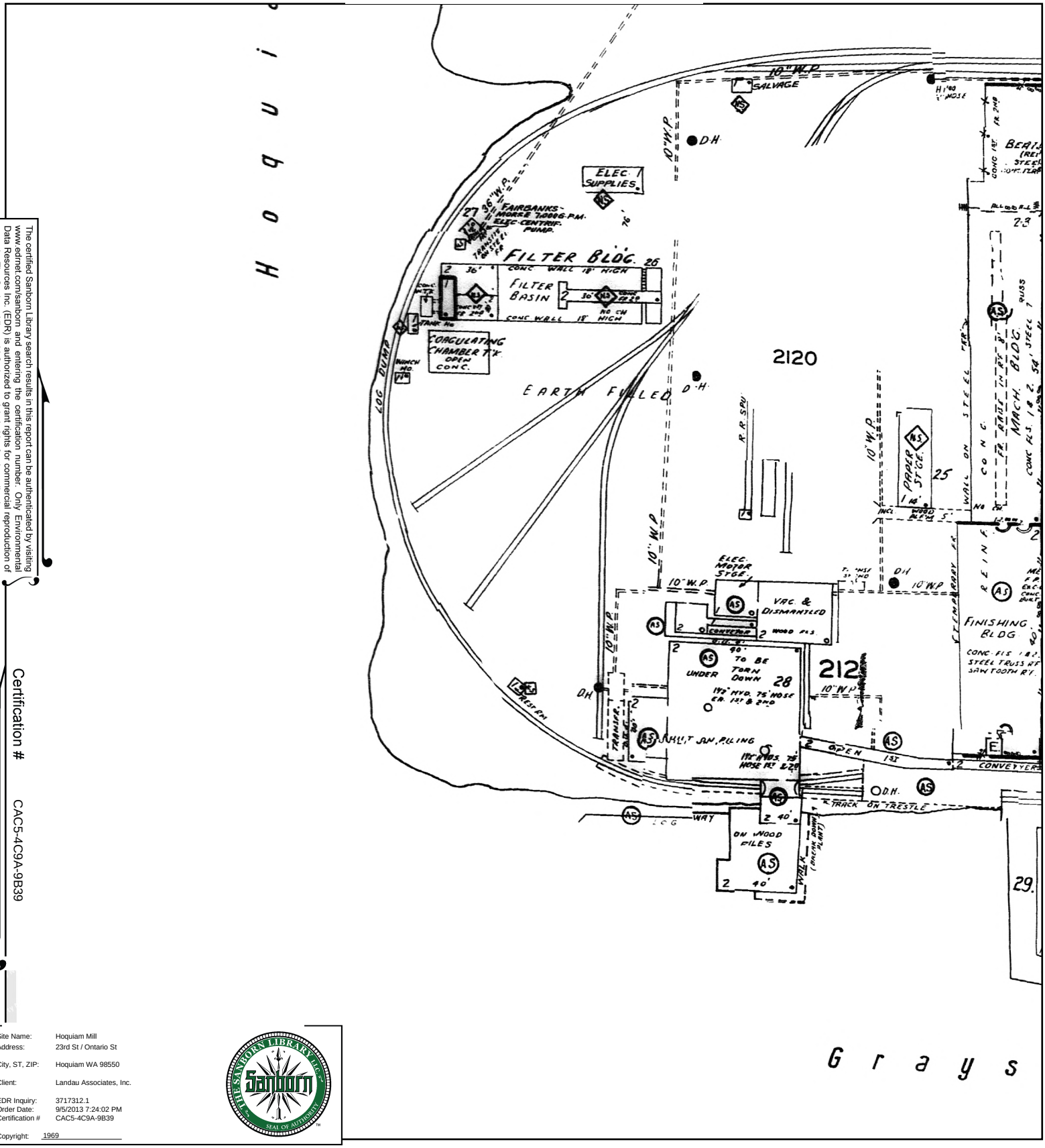
Volume 1, Sheet 31

1907 Source Sheets

Volume 1, Sheet 25

Volume 1, Sheet 26

1969 Certified Sanborn Map



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Certification # CAC5-4C9A-9B39

Site Name:	Hoquiam Mill
Address:	23rd St / Ontario St
City, ST, ZIP:	Hoquiam WA 98550
Client:	Landau Associates, Inc.
EDR Inquiry:	3717312.1
Order Date:	9/5/2013 7:24:02 PM
Certification #	CAC5-4C9A-9B39
Copyright:	1969

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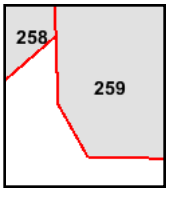

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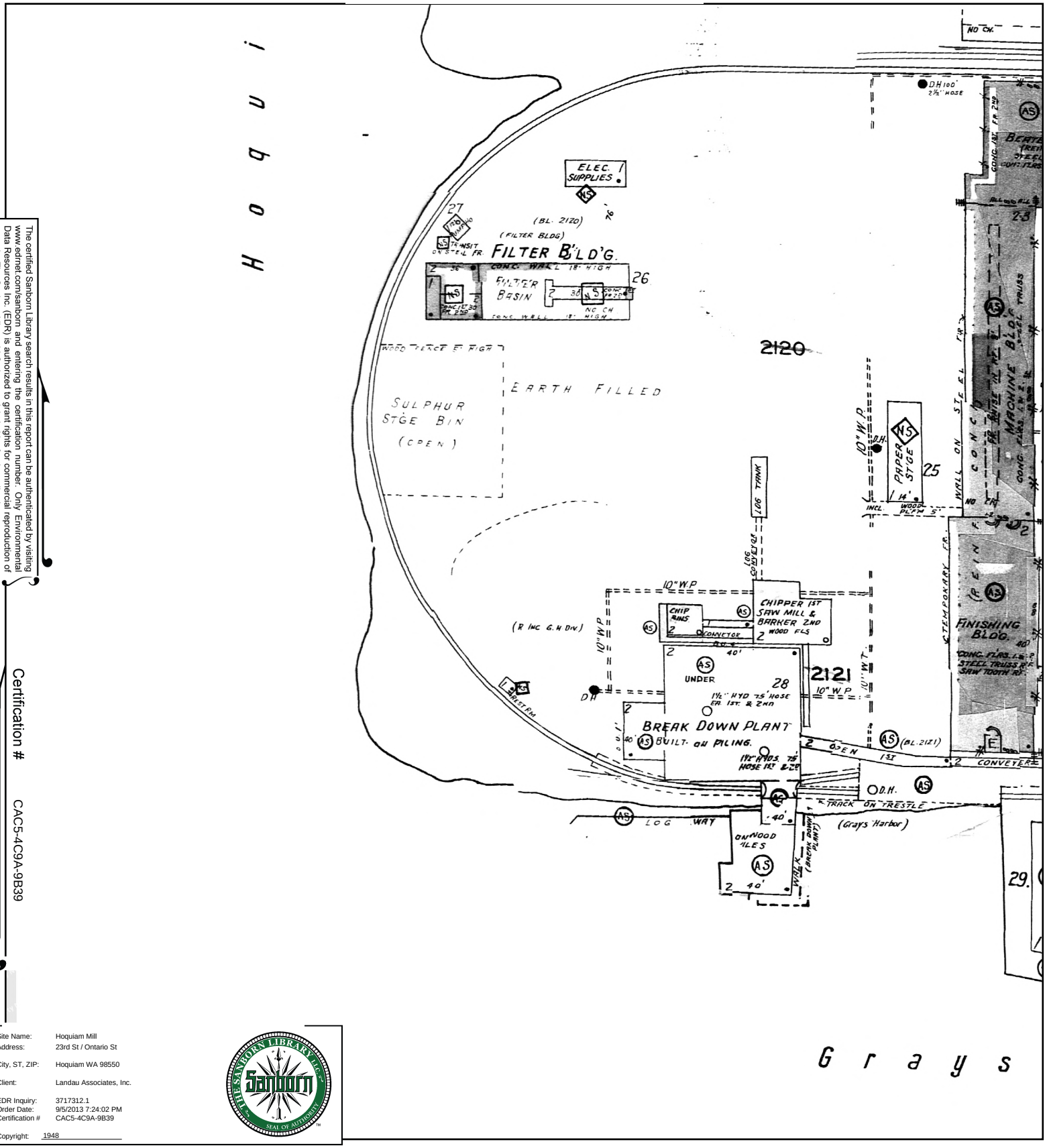
0 Feet 165 330 660

N

1948 Certified Sanborn Map



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Certification # CAC5-4C9A-9B39

Site Name: Hoquiam Mill
Address: 23rd St / Ontario St
City, ST, ZIP: Hoquiam WA 98550
Client: Landau Associates, Inc.
EDR Inquiry: 3717312.1
Order Date: 9/5/2013 7:24:02 PM
Certification # CAC5-4C9A-9B39
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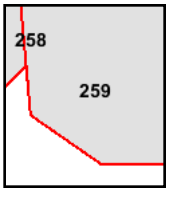

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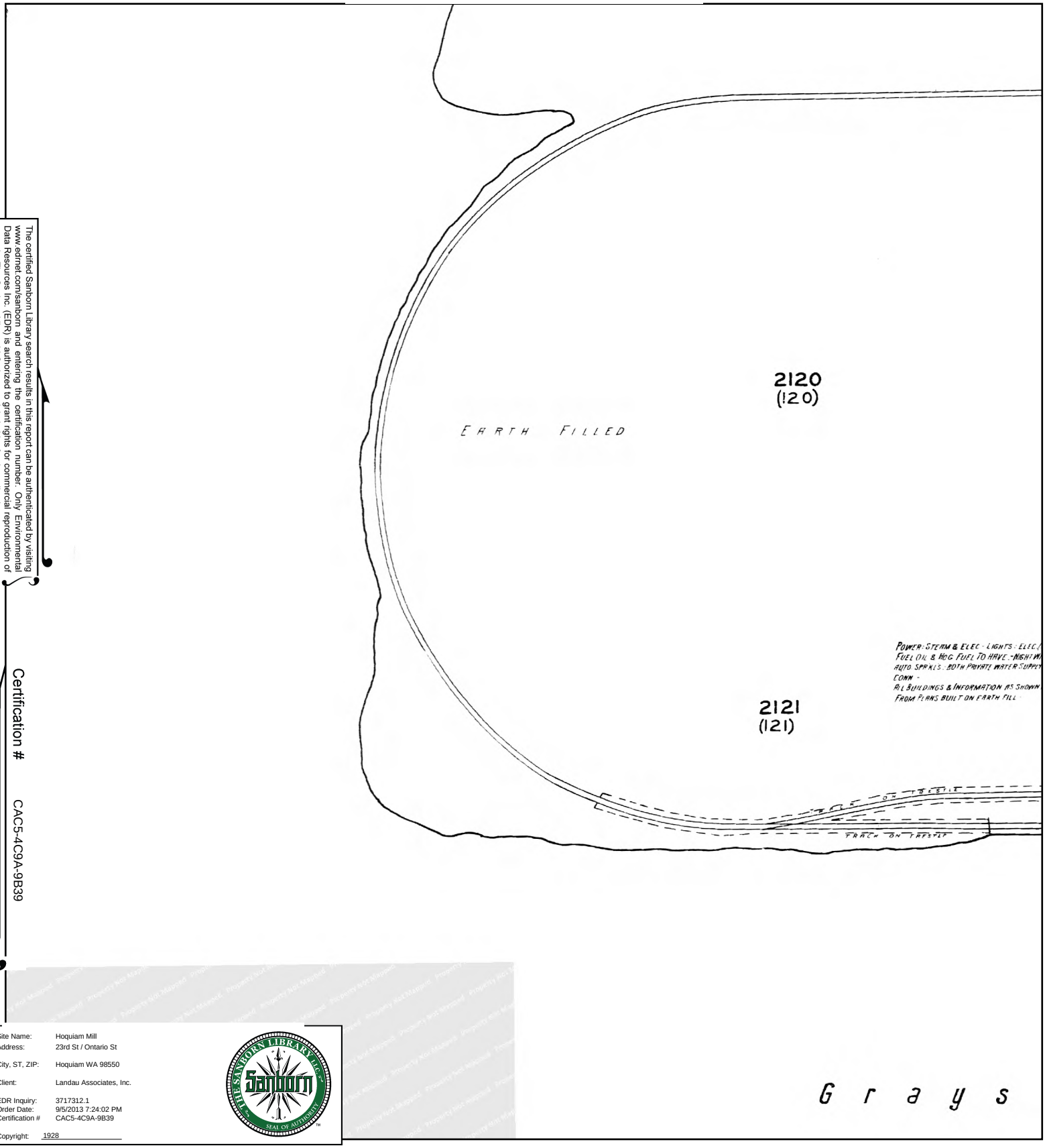
1928 Certified Sanborn Map



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Site Name: Hoquiam Mill
Address: 23rd St / Ontario St
City, ST, ZIP: Hoquiam WA 98550
Client: Landau Associates, Inc.
EDR Inquiry: 3717312.1
Order Date: 9/5/2013 7:24:02 PM
Certification # CAC5-4C9A-9B39
Copyright: 1928

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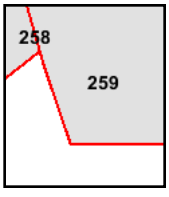

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Volume 2, Sheet 259

0 Feet 165 330 660

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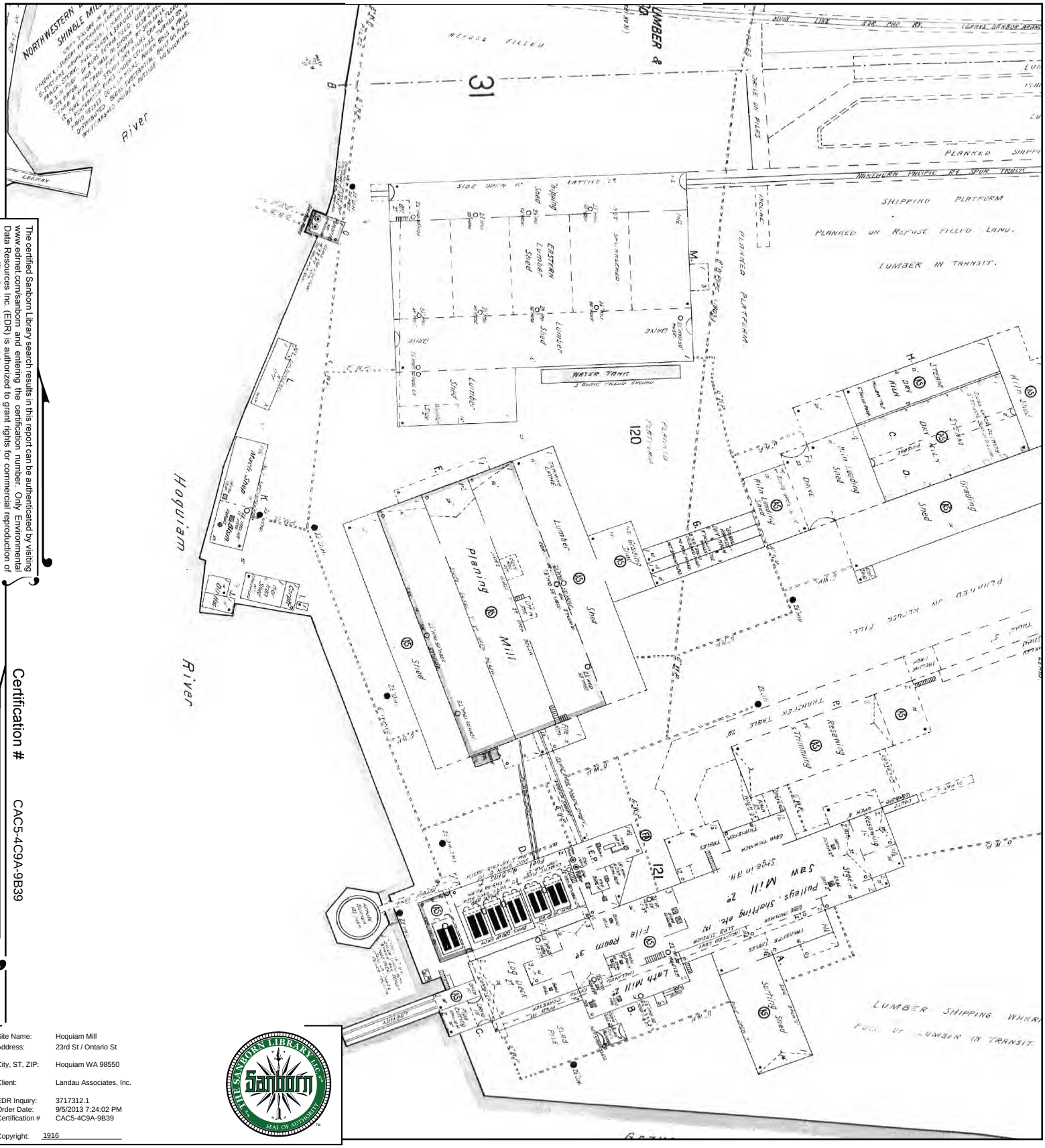
1916 Certified Sanborn Map



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Site Name: Hoquiam Mill
Address: 23rd St / Ontario St
City, ST, ZIP: Hoquiam WA 98550
Client: Landau Associates, Inc.
EDR Inquiry: 3717312.1
Order Date: 9/5/2013 7:24:02 PM
Certification # CAC5-4C9A-9B39
Copyright: 1916

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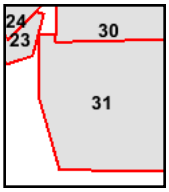

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0 Feet 165 330 660

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Site Name:	Hoquiam Mill
Address:	23rd St / Ontario St
City, ST, ZIP:	Hoquiam WA 98550
Client:	Landau Associates, Inc.
EDR Inquiry:	3717312.1
Order Date:	9/5/2013 7:24:02 PM
Certification #	CAC5-4C9A-9B39
Copyright:	1907

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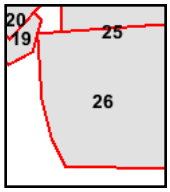

Volume 1, Sheet 25
Volume 1, Sheet 26

0 Feet 165 330 660

N

Hoquiam Mill
23rd St / Ontario St
Hoquiam, WA 98550

Inquiry Number: 3717312.1
September 05, 2013

Certified Sanborn® Map Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

9/05/13

Site Name:
Hoquiam Mill
23rd St / Ontario St
Hoquiam, WA 98550

Client Name:
Landau Associates, Inc.
130 Second Avenue South
Edmonds, WA 98020

EDR Inquiry # 3717312.1

Contact: Mark Brunner

EDR® Environmental Data Resources Inc

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Certified Sanborn Results:

Site Name: Hoquiam Mill
Address: 23rd St / Ontario St
City, State, Zip: Hoquiam, WA 98550
Cross Street:
P.O. # 0016046.010.011
Project: Rayonier/ Grays Harbor Paper
Certification # CAC5-4C9A-9B39

Maps Provided:

1969
1948
1928
1916
1907

Sanborn® Library search results
Certification # CAC5-4C9A-9B39

The Sanborn Library includes more than 1.2 million Sanborn fire insurance maps, which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

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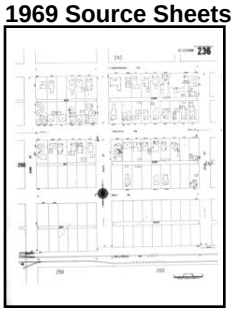
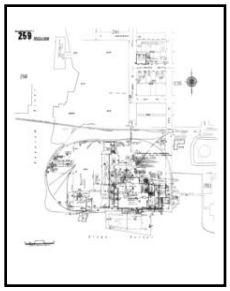


Volume 2, Sheet 236



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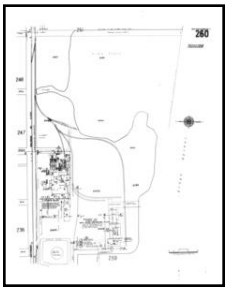
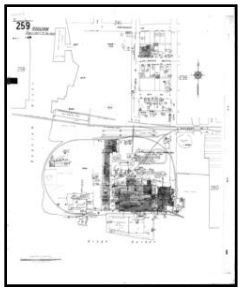


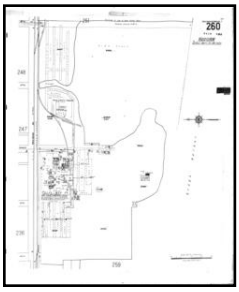
Volume 2, Sheet 260

1948 Source Sheets

Volume 2, Sheet 236



Volume 2, Sheet 259



Volume 2, Sheet 260

1928 Source Sheets

Volume 2, Sheet 236

Volume 2, Sheet 259

Volume 2, Sheet 260

1916 Source Sheets

Volume 1, Sheet 30

Volume 1, Sheet 31

Volume 1, Sheet 32

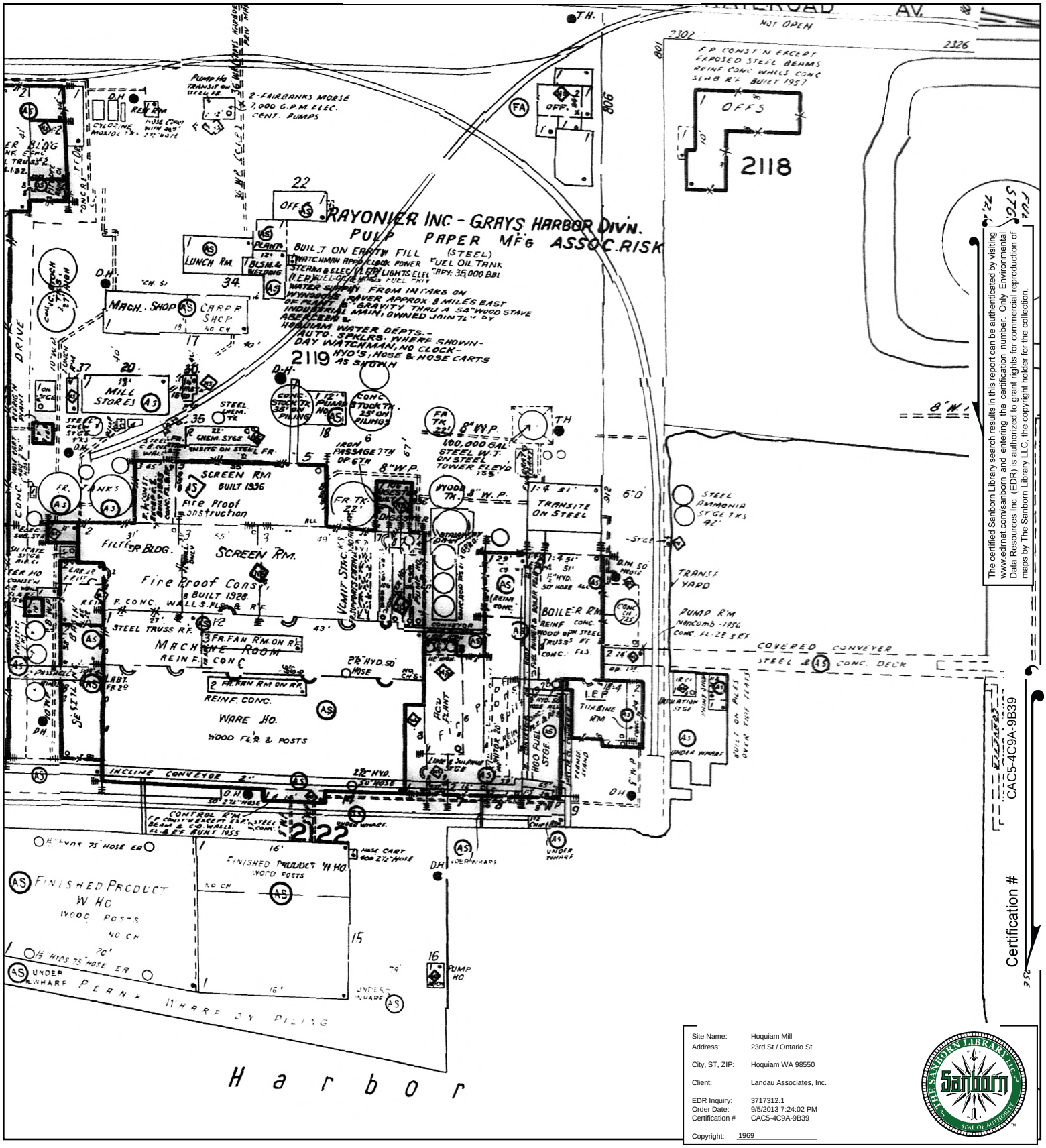
1907 Source Sheets

Volume 1, Sheet 25

Volume 1, Sheet 26

Volume 1, Sheet 27

1969 Certified Sanborn Map



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Address:	23rd St / Ontario St
City, ST, ZIP:	Hoquiam WA 98550
Client:	Landau Associates, Inc.
EDR Inquiry:	3717312.1
Order Date:	9/5/2013 7:24:02 PM
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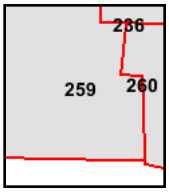

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Volume 2, Sheet 260

0 Feet 165 330 660

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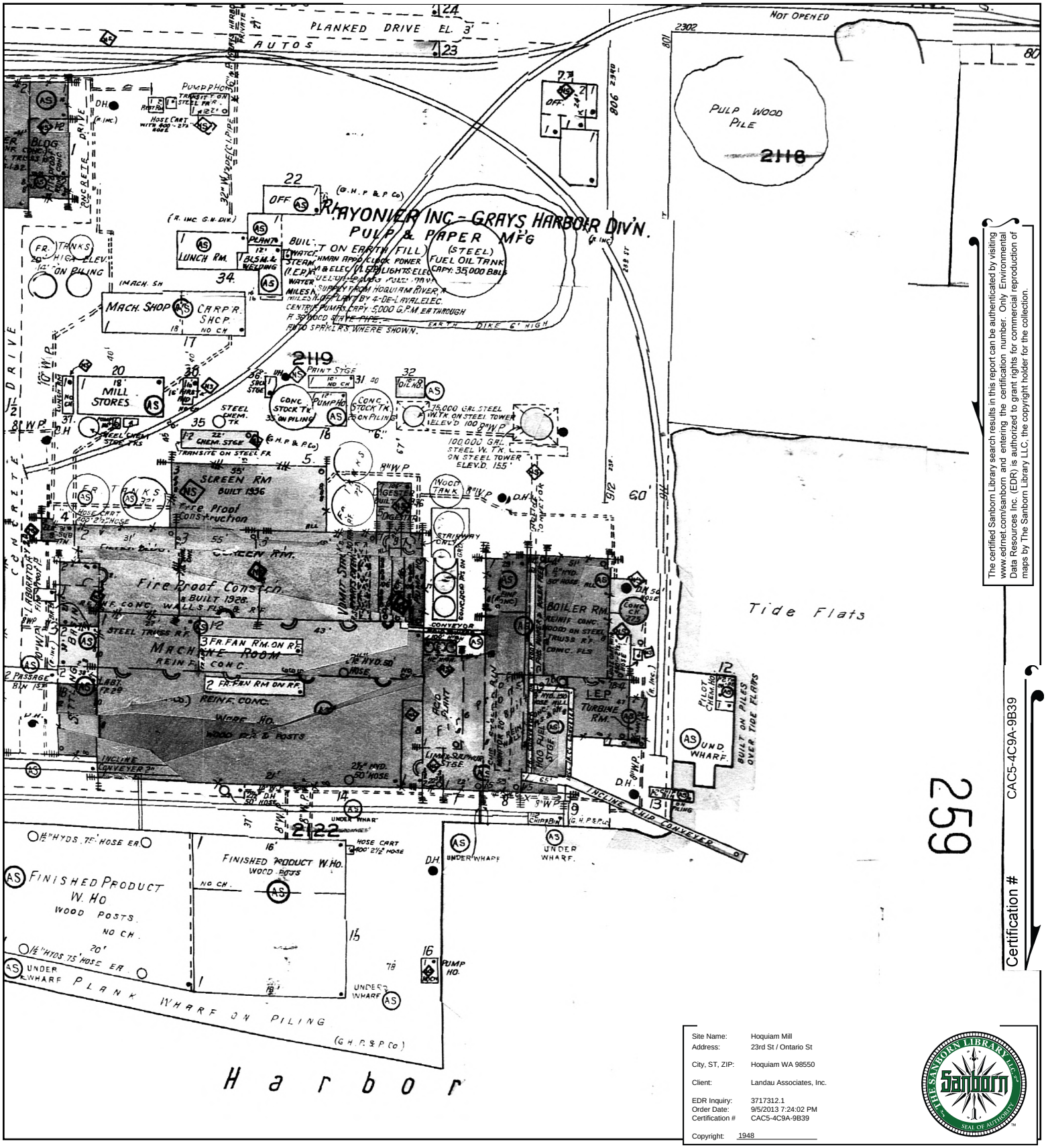
1948 Certified Sanborn Map



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Client:	Landau Associates, Inc.
EDR Inquiry:	3717312.1
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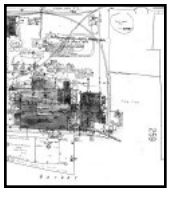

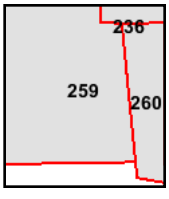

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Volume 2, Sheet 260

0 Feet 165 330 660

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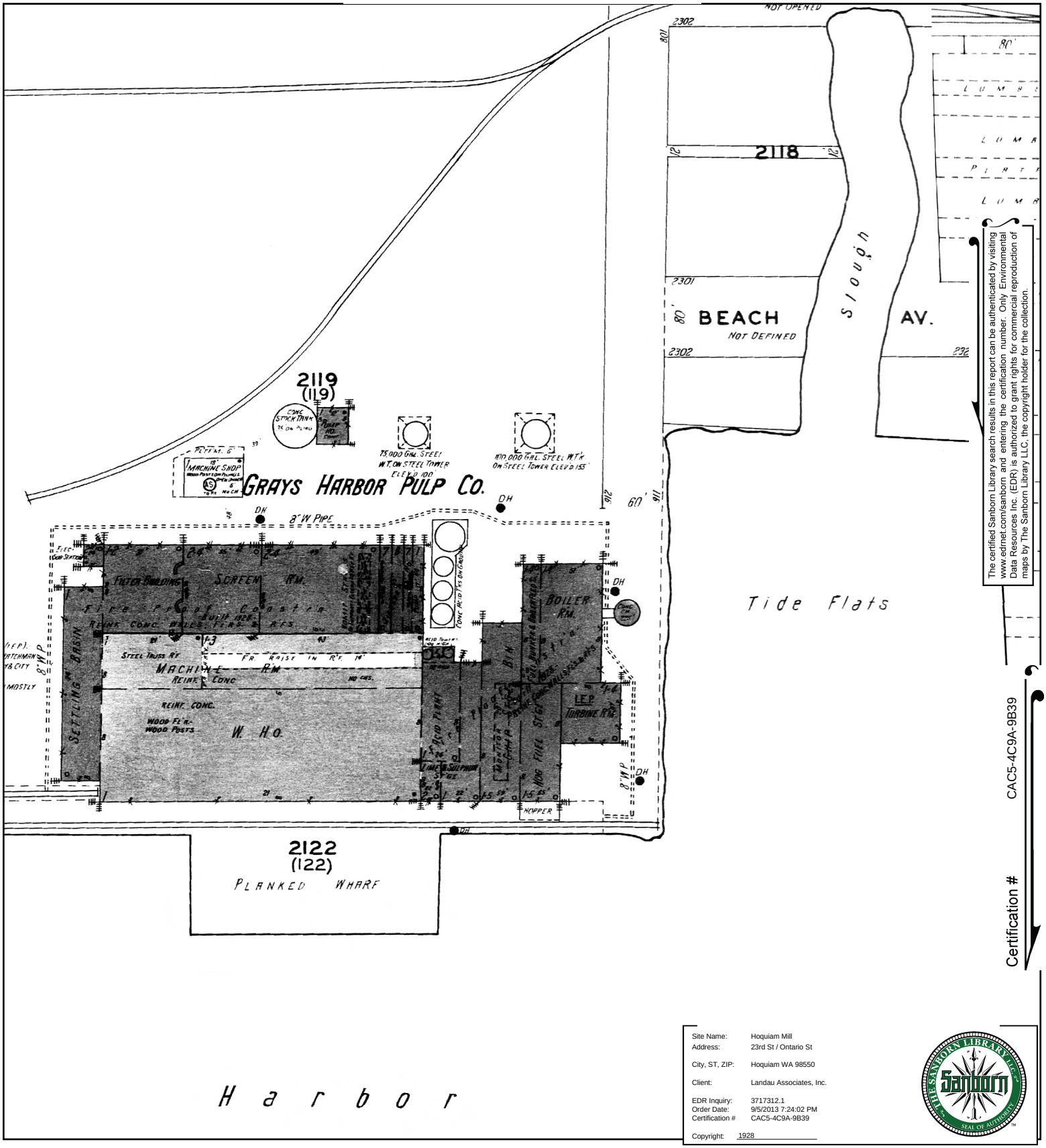

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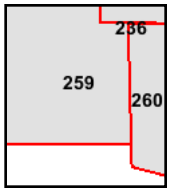

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Volume 2, Sheet 260

0 Feet 165 330 660

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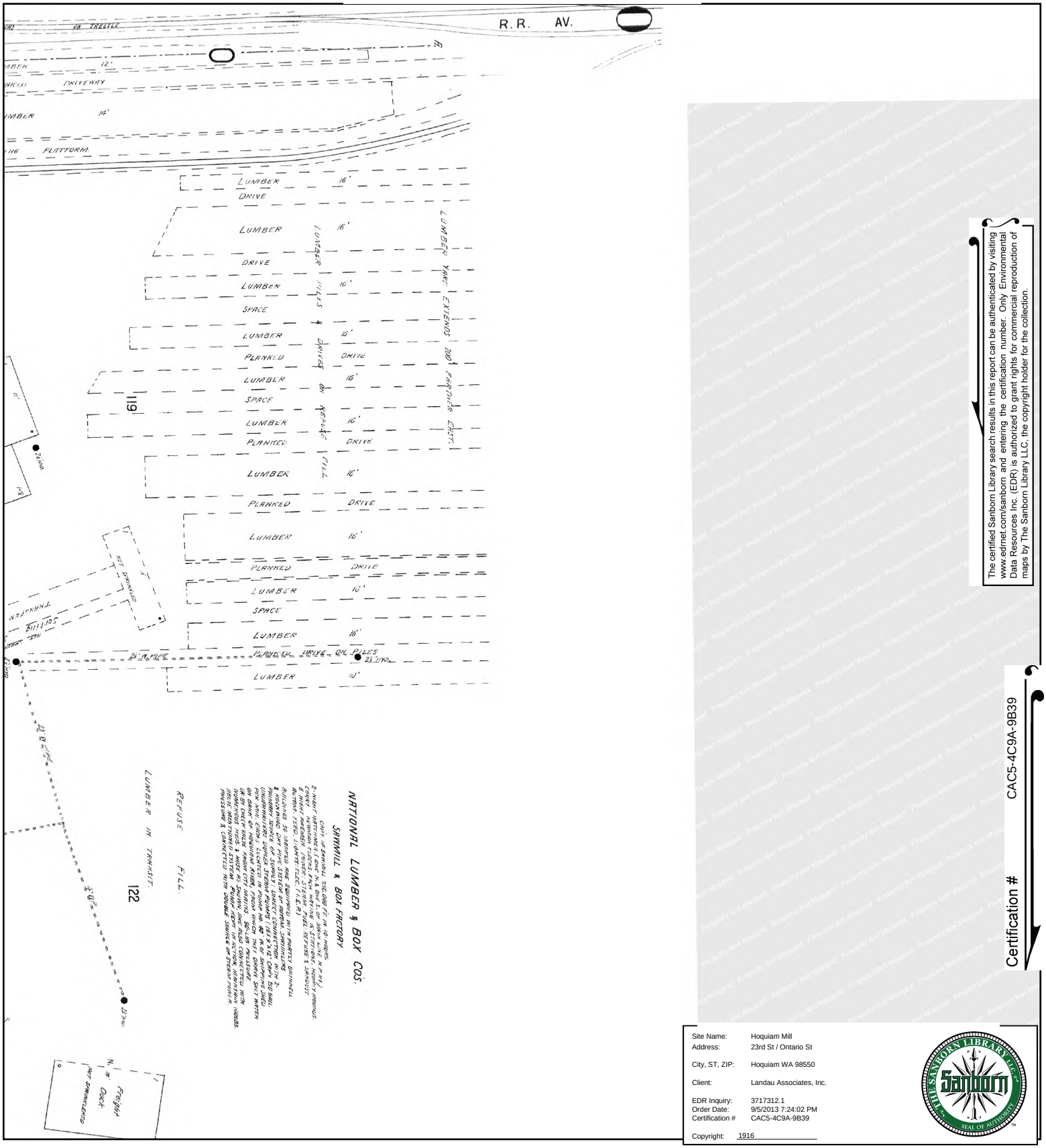
1916 Certified Sanborn Map



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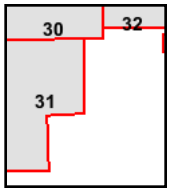

Volume 1, Sheet 30
Volume 1, Sheet 31
Volume 1, Sheet 32

0 Feet 165 330 660

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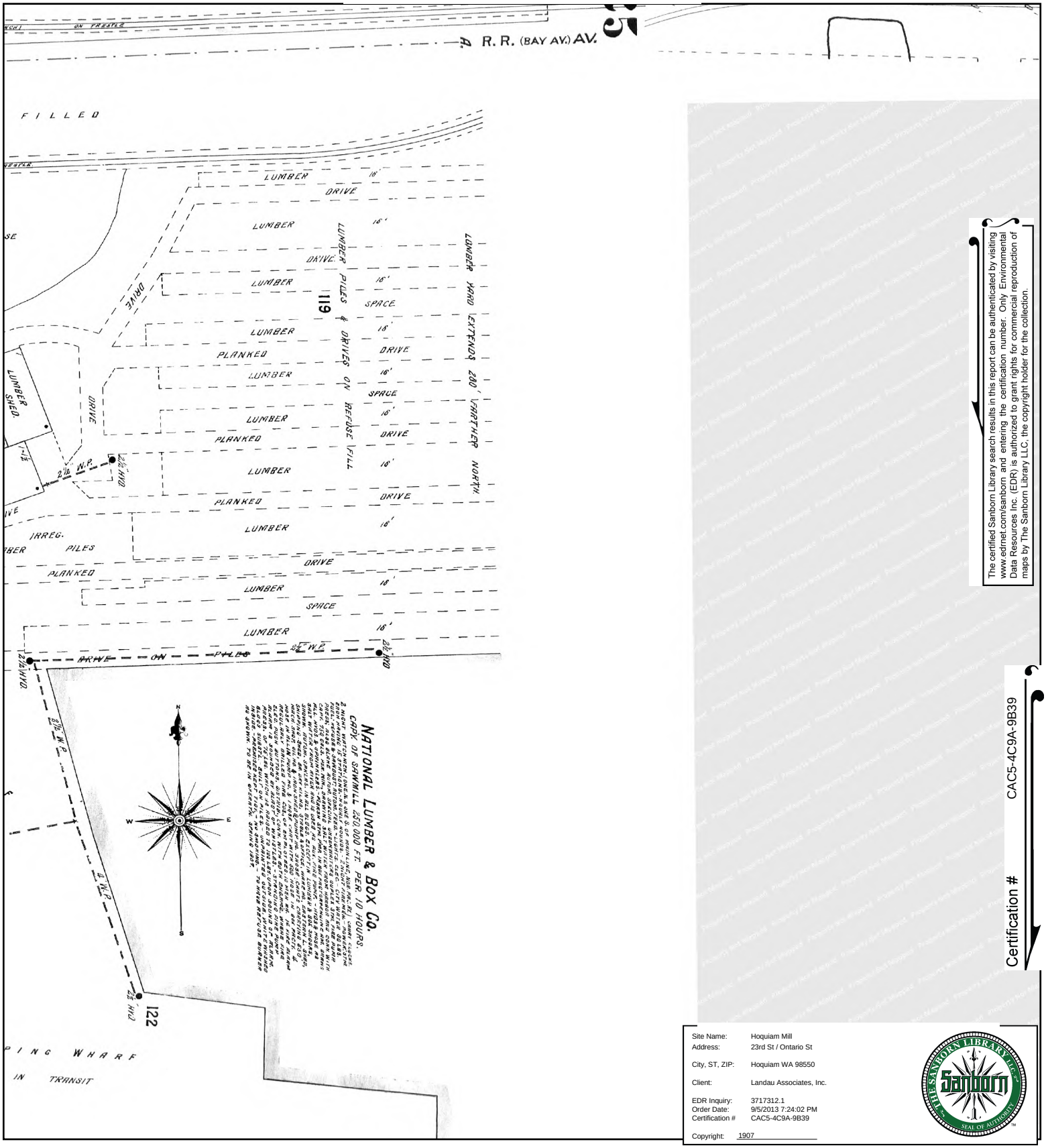
1907 Certified Sanborn Map



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City, ST, ZIP:	Hoquiam WA 98550
Client:	Landau Associates, Inc.
EDR Inquiry:	3717312.1
Order Date:	9/5/2013 7:24:02 PM
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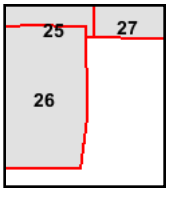

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Volume 1, Sheet 26
Volume 1, Sheet 27

0 Feet 165 330 660

N

Hoquiam Mill
23rd St / Ontario St
Hoquiam, WA 98550

Inquiry Number: 3717312.1
September 05, 2013

Certified Sanborn® Map Report

EDR® Environmental Data Resources Inc

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Milford, CT 06461
800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

9/05/13

Site Name:
Hoquiam Mill
23rd St / Ontario St
Hoquiam, WA 98550

EDR Inquiry # 3717312.1

Client Name:
Landau Associates, Inc.
130 Second Avenue South
Edmonds, WA 98020

Contact: Mark Brunner

EDR® Environmental Data Resources Inc

The complete Sanborn Library collection has been searched by EDR, and fire insurance maps covering the target property location provided by Landau Associates, Inc. were identified for the years listed below. The certified Sanborn Library search results in this report can be authenticated by visiting www.edrnet.com/sanborn and entering the certification number. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by Sanborn Library LLC, the copyright holder for the collection.

Certified Sanborn Results:

Site Name: Hoquiam Mill
Address: 23rd St / Ontario St
City, State, Zip: Hoquiam, WA 98550
Cross Street:
P.O. # 0016046.010.011
Project: Rayonier/ Grays Harbor Paper
Certification # CAC5-4C9A-9B39

Maps Provided:

1969
1948
1928
1916
1907

Sanborn® Library search results
Certification # CAC5-4C9A-9B39

The Sanborn Library includes more than 1.2 million Sanborn fire insurance maps, which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

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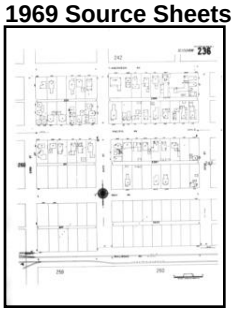
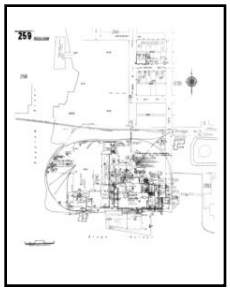
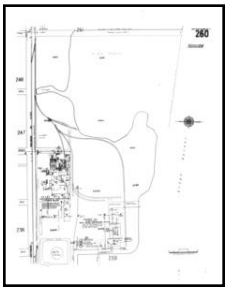


Volume 2, Sheet 236



Volume 2, Sheet 259



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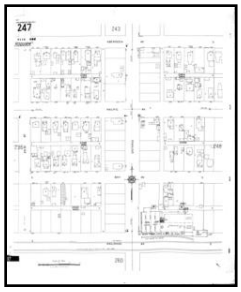
Volume 2, Sheet 247

1948 Source Sheets

Volume 2, Sheet 236



Volume 2, Sheet 247

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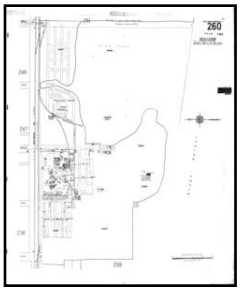

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1928 Source Sheets

Volume 2, Sheet 236

Volume 2, Sheet 247

Volume 2, Sheet 260

1916 Source Sheets

Volume 1, Sheet 36

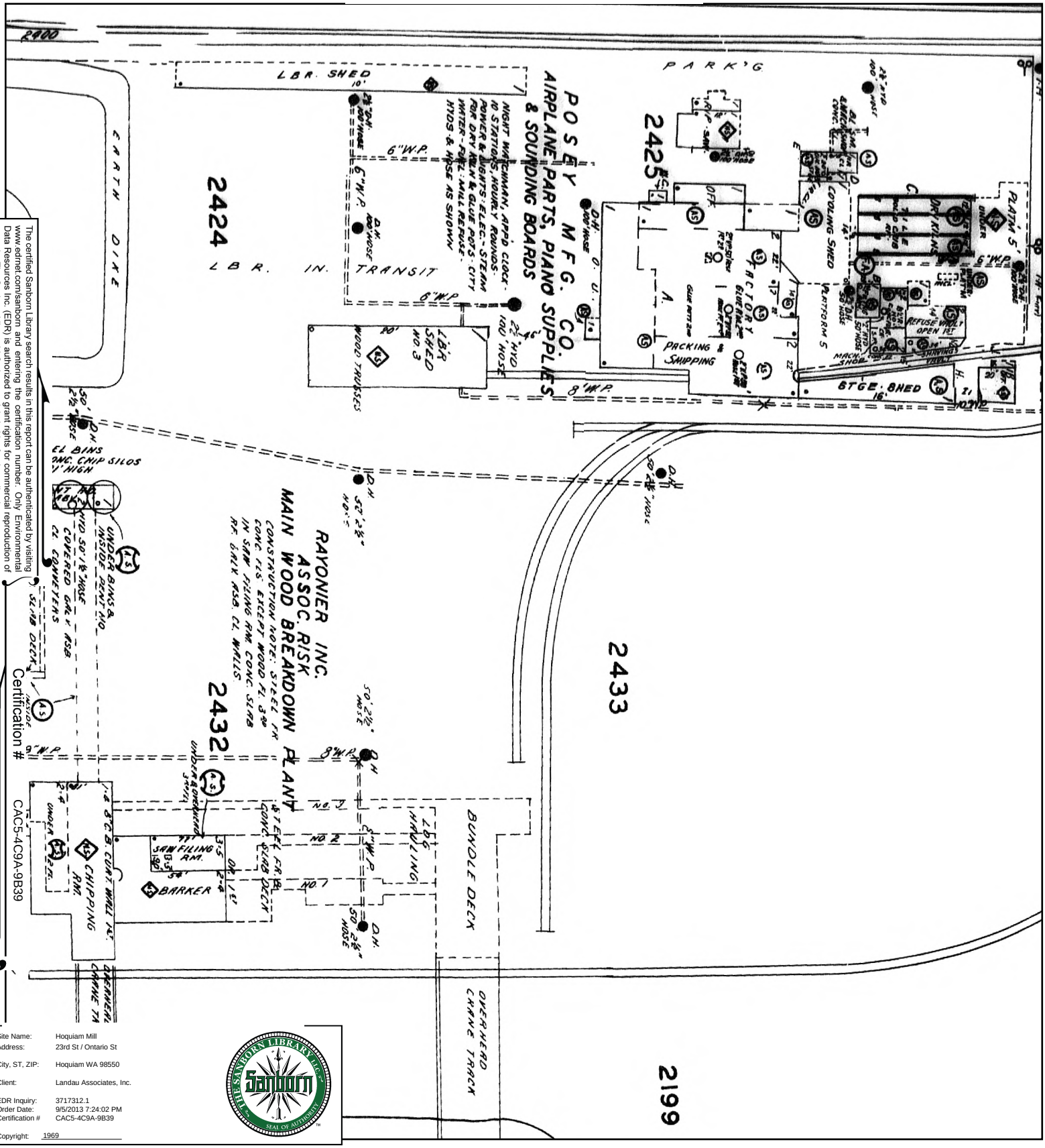
Volume 1, Sheet 35

Volume 1, Sheet 32

1907 Source Sheets

Volume 1, Sheet 27

1969 Certified Sanborn Map



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Client:	Landau Associates, Inc.
EDR Inquiry:	3717312.1
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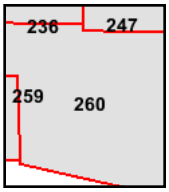
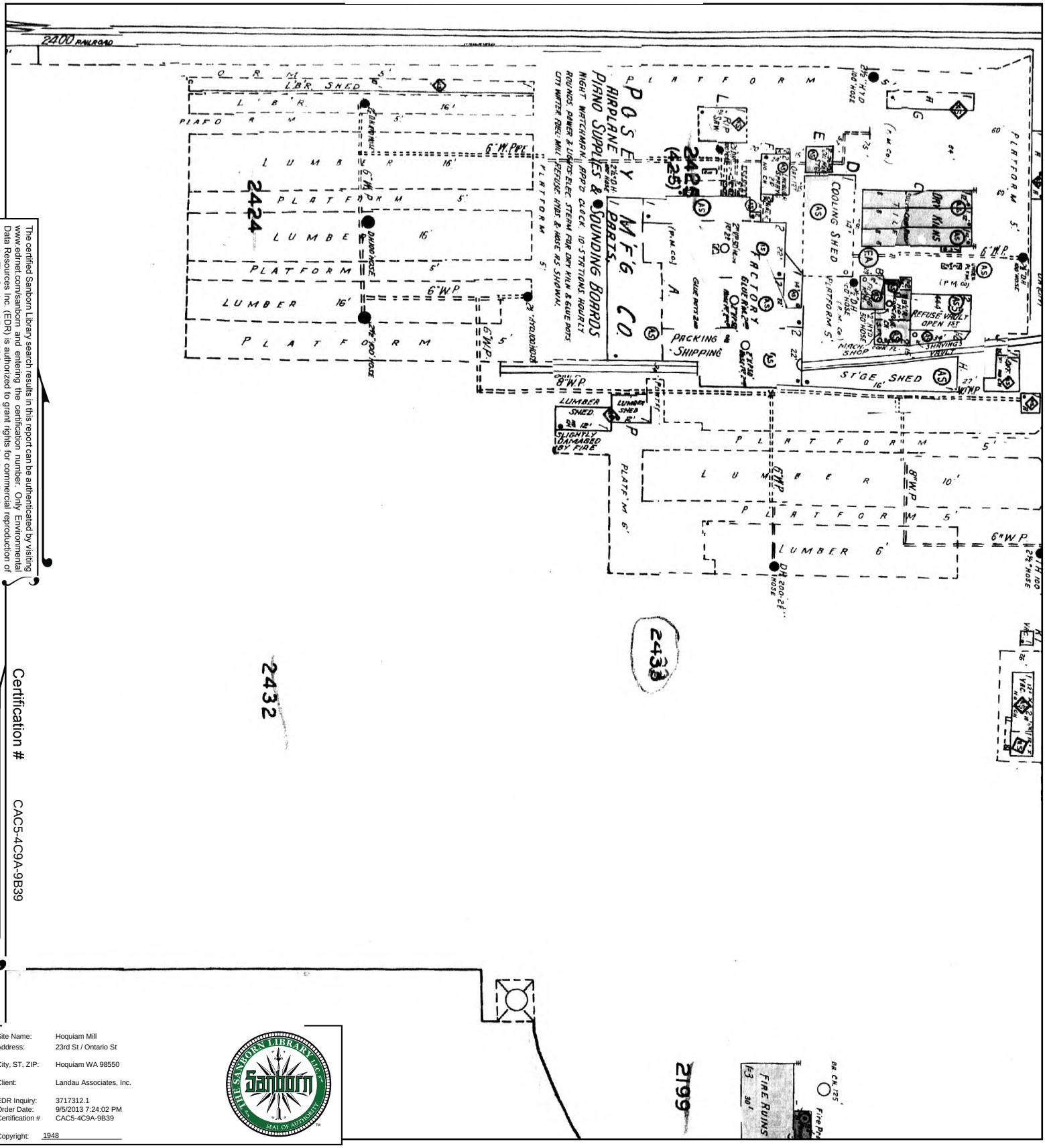


Volume 2, Sheet 236
Volume 2, Sheet 259
Volume 2, Sheet 260
Volume 2, Sheet 247

N

1948 Certified Sanborn Map



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EDR Inquiry: 3717312.1
Order Date: 9/5/2013 7:24:02 PM
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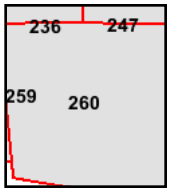

Volume 2, Sheet 236
Volume 2, Sheet 247
Volume 2, Sheet 259
Volume 2, Sheet 260

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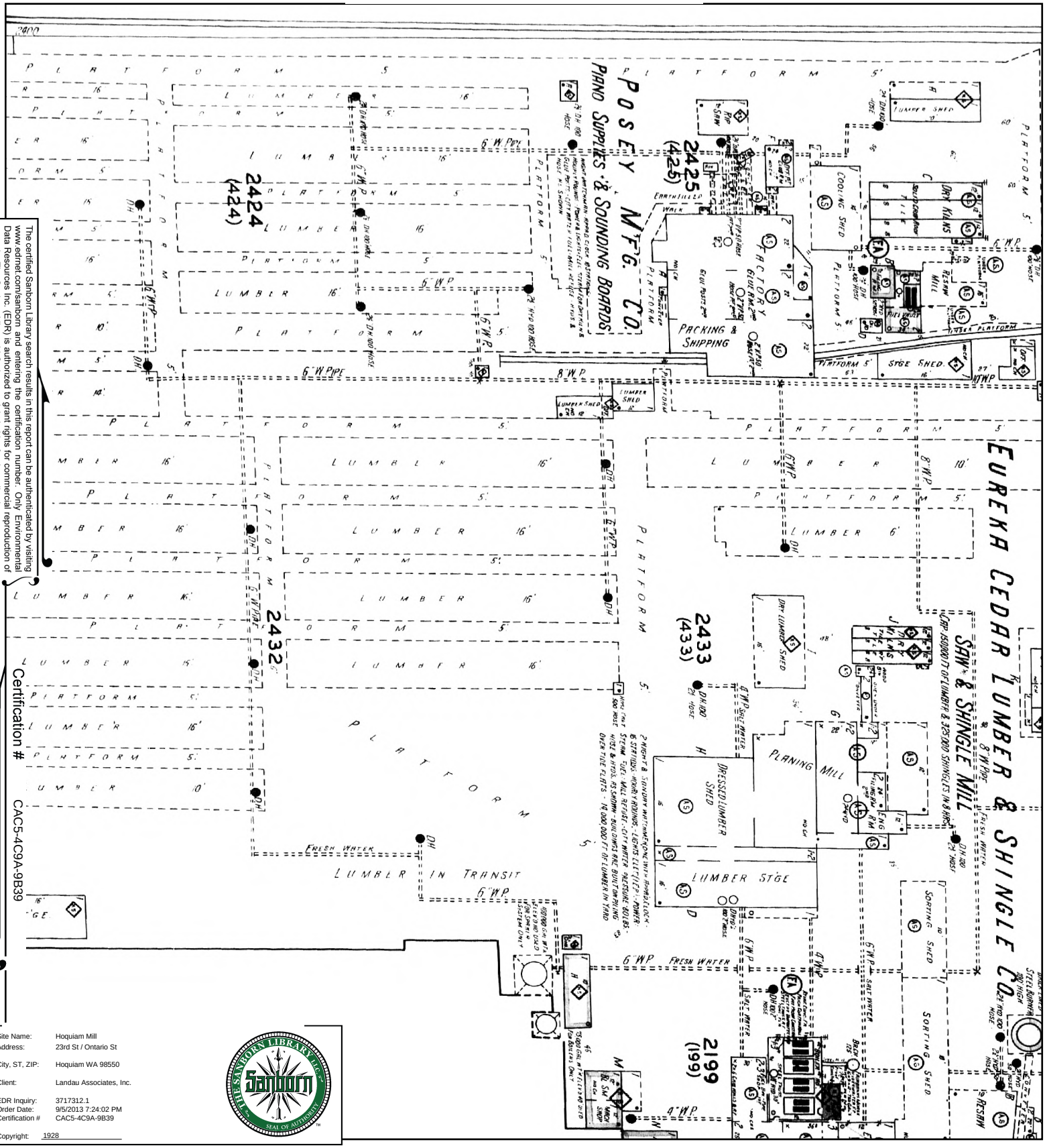
1928 Certified Sanborn Map



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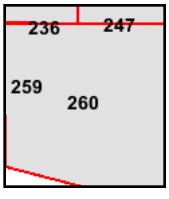

Volume 2, Sheet 236
Volume 2, Sheet 247
Volume 2, Sheet 260

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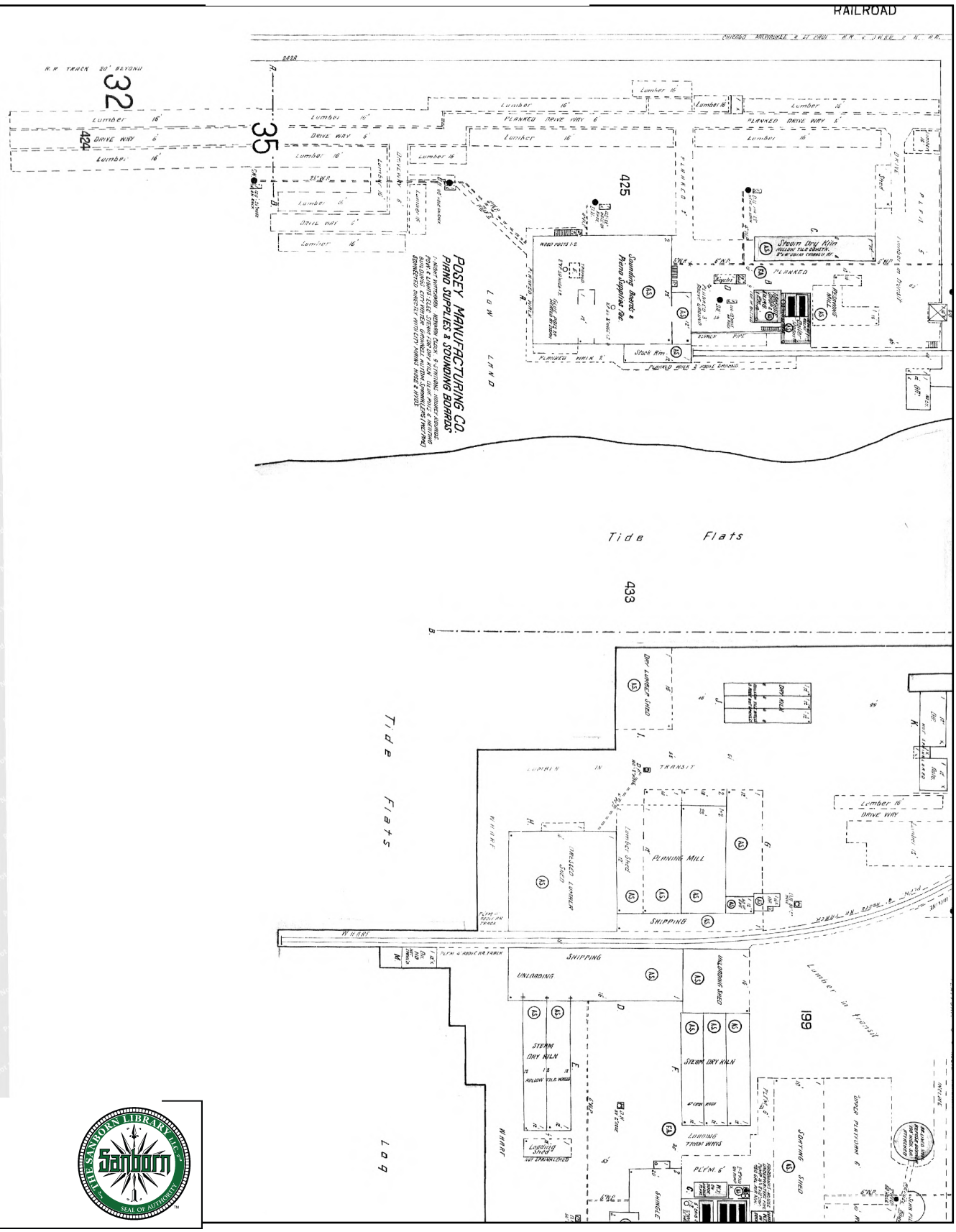
1916 Certified Sanborn Map



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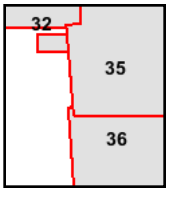
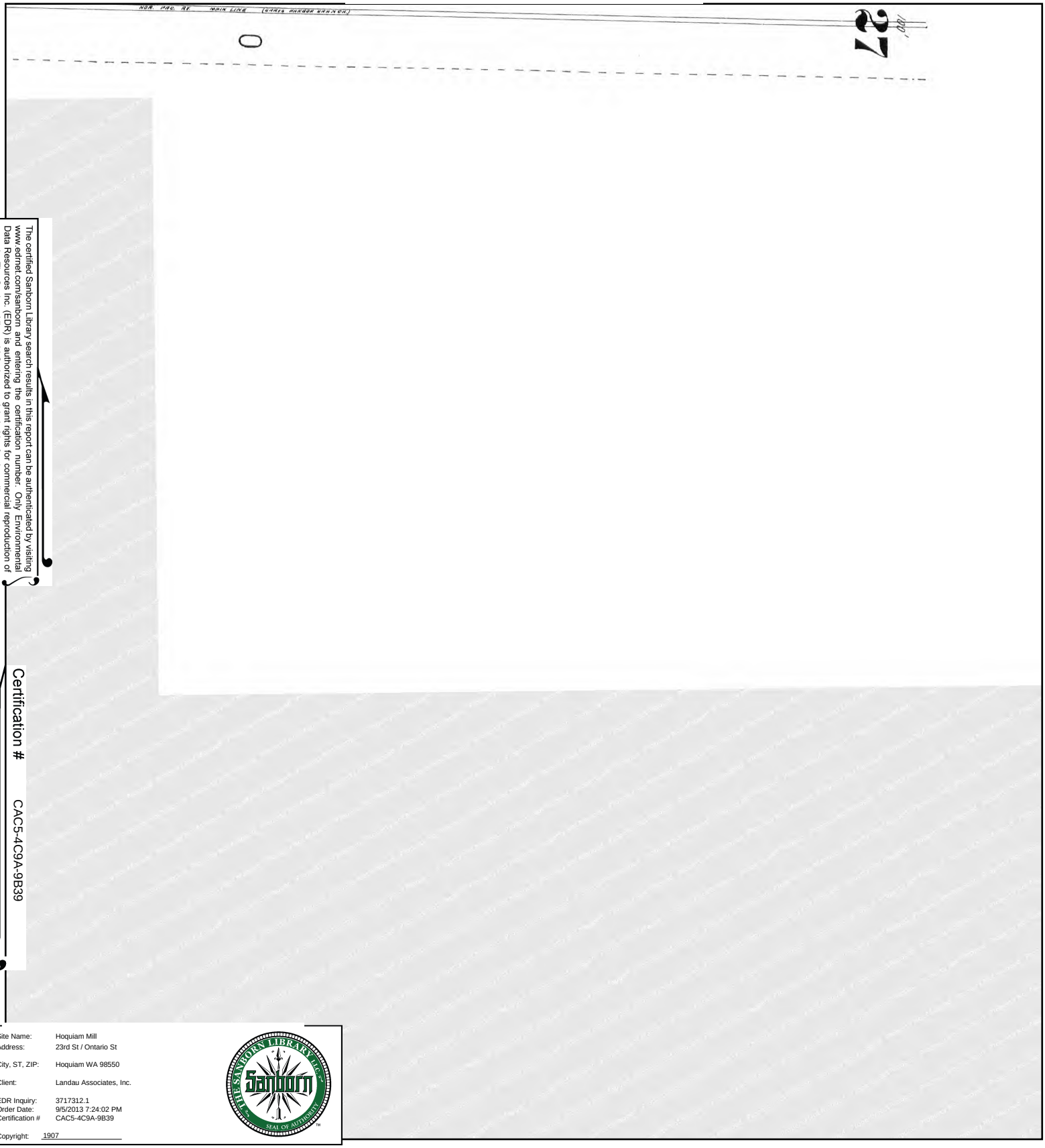


Volume 1, Sheet 36
Volume 1, Sheet 35
Volume 1, Sheet 32

0 Feet 165 330 660

N

1907 Certified Sanborn Map



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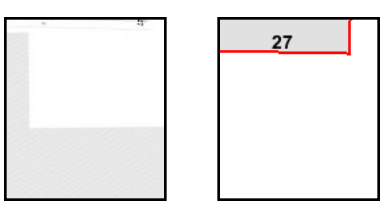

Volume 1, Sheet 27

0 Feet 165 330 660

N

Hoquiam Mill
23rd St / Ontario St
Hoquiam, WA 98550

Inquiry Number: 3717312.1
September 05, 2013

Certified Sanborn® Map Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

9/05/13

Site Name:
Hoquiam Mill
23rd St / Ontario St
Hoquiam, WA 98550

Client Name:
Landau Associates, Inc.
130 Second Avenue South
Edmonds, WA 98020

EDR Inquiry # 3717312.1

Contact: Mark Brunner

EDR® Environmental Data Resources Inc

The complete Sanborn Library collection has been searched by EDR, and fire insurance maps covering the target property location provided by Landau Associates, Inc. were identified for the years listed below. The certified Sanborn Library search results in this report can be authenticated by visiting www.edrnet.com/sanborn and entering the certification number. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by Sanborn Library LLC, the copyright holder for the collection.

Certified Sanborn Results:

Site Name: Hoquiam Mill
Address: 23rd St / Ontario St
City, State, Zip: Hoquiam, WA 98550
Cross Street:
P.O. # 0016046.010.011
Project: Rayonier/ Grays Harbor Paper
Certification # CAC5-4C9A-9B39

Maps Provided:

1969
1948
1928
1916

Sanborn® Library search results
Certification # CAC5-4C9A-9B39

The Sanborn Library includes more than 1.2 million Sanborn fire insurance maps, which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

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Sanborn Sheet Thumbnails

This Certified Sanborn Map Report is based upon the following Sanborn Fire Insurance map sheets.

1969 Source Sheets

Volume 2, Sheet 260

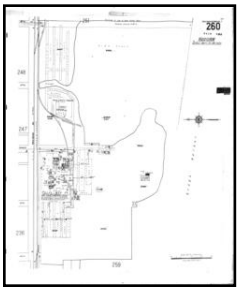
Volume 2, Sheet 247

Volume 2, Sheet 248

1948 Source Sheets

Volume 2, Sheet 247

Volume 2, Sheet 248



Volume 2, Sheet 260

1928 Source Sheets

Volume 2, Sheet 247

Volume 2, Sheet 248

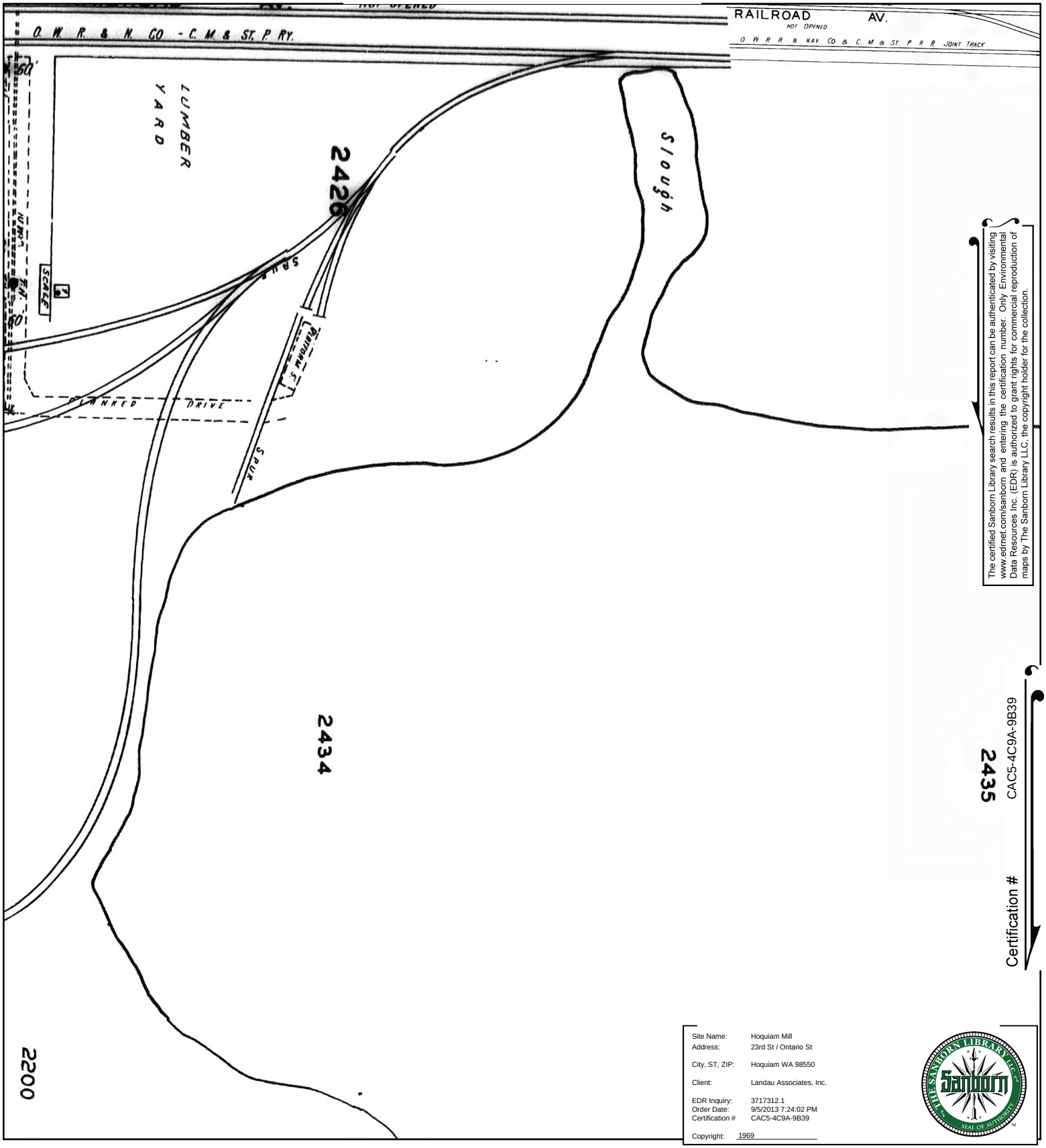
Volume 2, Sheet 260

1916 Source Sheets

Volume 1, Sheet 36

Volume 1, Sheet 35

1969 Certified Sanborn Map



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Certification # CAC5-4C9A-9B39

Site Name:	Hoquiam Mill
Address:	23rd St / Ontario St
City, ST, ZIP:	Hoquiam WA 98550
Client:	Landau Associates, Inc.
EDR Inquiry:	3717312.1
Order Date:	9/5/2013 7:24:02 PM
Certification #	CAC5-4C9A-9B39
Copyright:	1969

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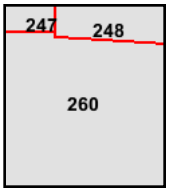

Volume 2, Sheet 260
Volume 2, Sheet 247
Volume 2, Sheet 248

0 Feet 165 330 660

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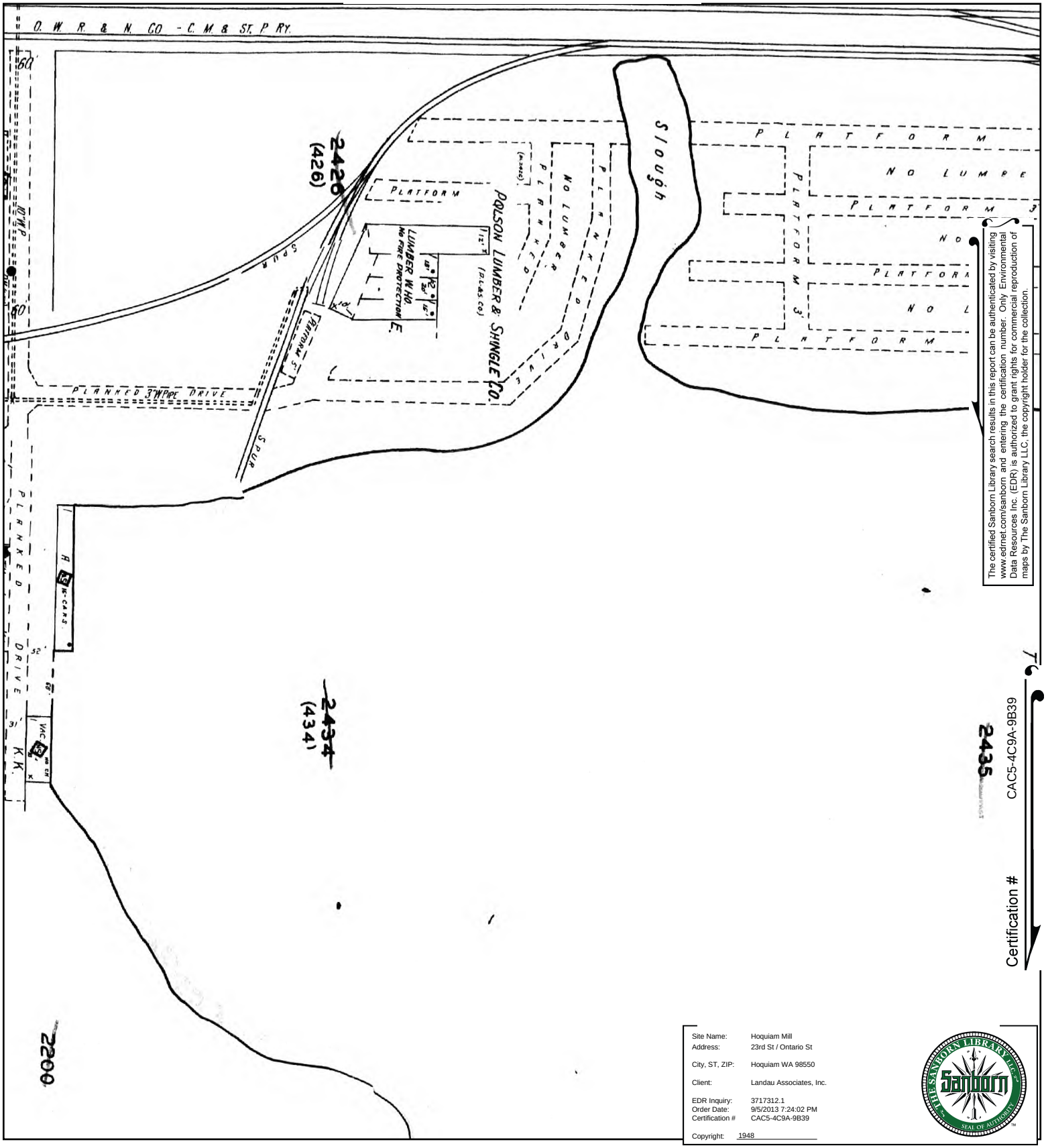
1948 Certified Sanborn Map



Site Name:	Hoquiam Mill
Address:	23rd St / Ontario St
City, ST, ZIP:	Hoquiam WA 98550
Client:	Landau Associates, Inc.
EDR Inquiry:	3717312.1
Order Date:	9/5/2013 7:24:02 PM
Certification #	CAC5-4C9A-9B39
Copyright:	1948

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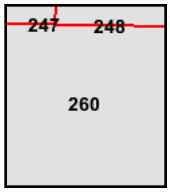
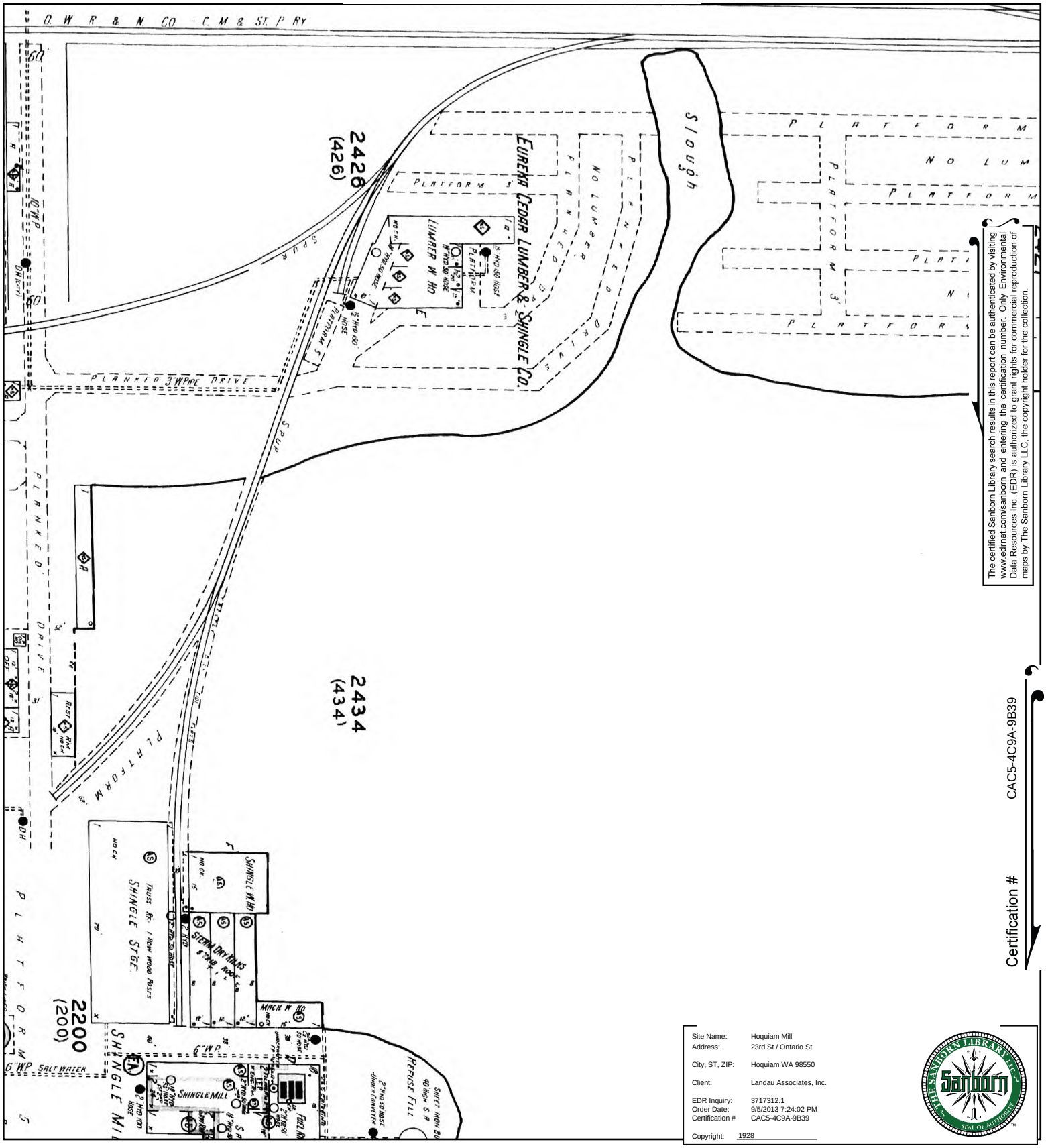


Volume 2, Sheet 247
Volume 2, Sheet 248
Volume 2, Sheet 260

0 Feet 165 330 660

N

1928 Certified Sanborn Map



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Certification # CAC5-4C9A-9B39

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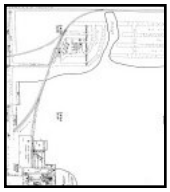

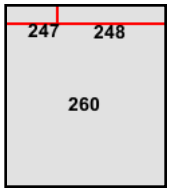

Volume 2, Sheet 247
Volume 2, Sheet 248
Volume 2, Sheet 260

0 Feet 165 330 660

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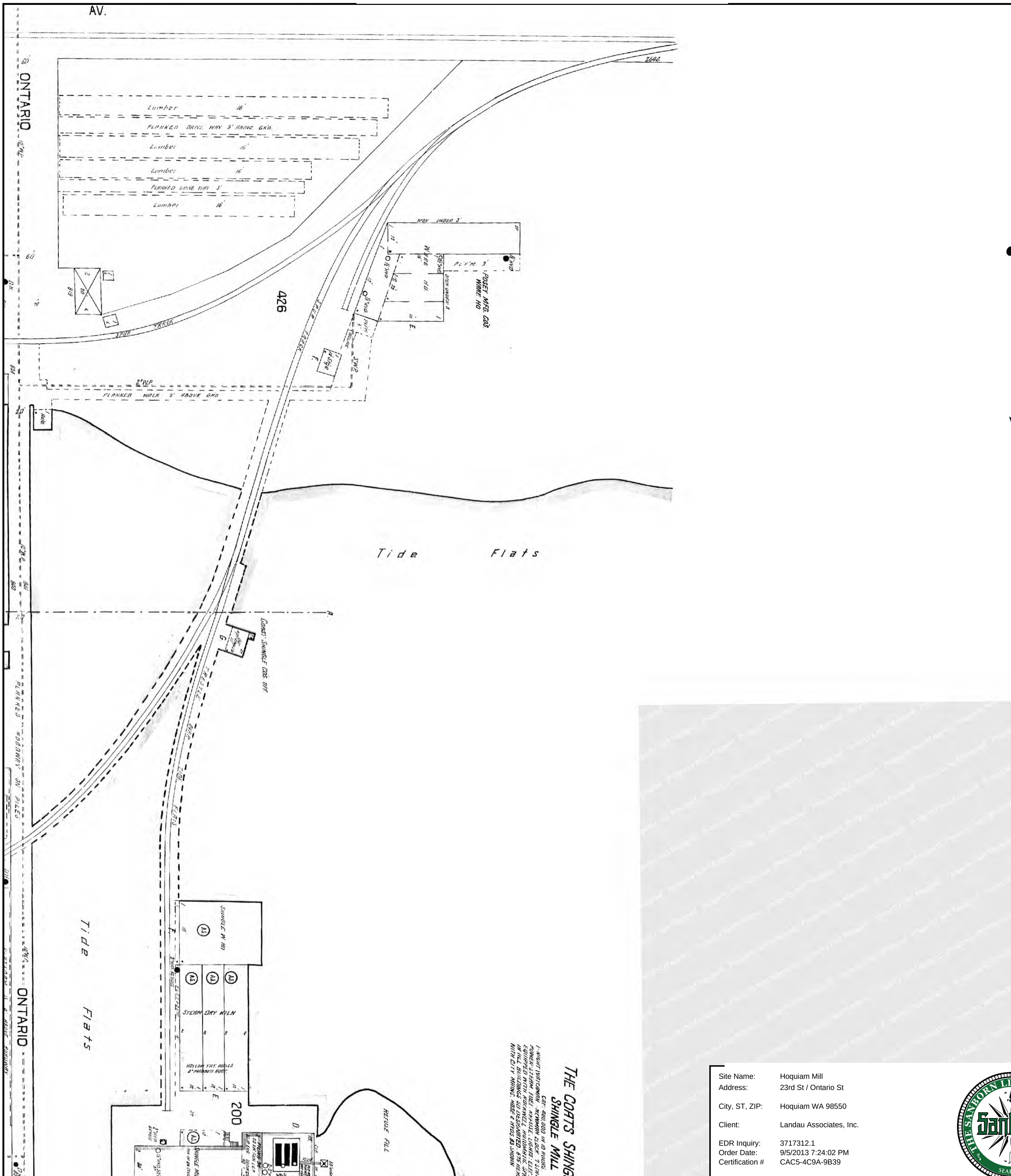
1916 Certified Sanborn Map



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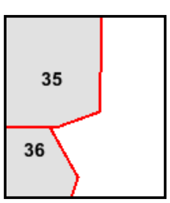
Certification # CAC5-4C9A-9B39

Site Name:	Hoquiam Mill
Address:	23rd St / Ontario St
City, ST, ZIP:	Hoquiam WA 98550
Client:	Landau Associates, Inc.
EDR Inquiry:	3717312.1
Order Date:	9/5/2013 7:24:02 PM
Certification #	CAC5-4C9A-9B39
Copyright:	1916

0 Feet 165 330 660

This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.



Volume 1, Sheet 36
Volume 1, Sheet 35

N

APPENDIX B

2016 Powerhouse Area Subsurface Soil Investigation Results

APPENDIX B
2016 POWERHOUSE AREA SOIL SCREENING INVESTIGATION

Past operations at the Powerhouse Area of the former Grays Harbor Paper Mill facility resulted in a release of No. 6 fuel oil to soil beneath the Powerhouse building. Historical borings completed in 1993 (PH-1 through PH-16) identified the extent of soil contamination in an area limited to a crawlspace beneath the boilers. Soil contamination was left in place based on the impracticability of removing the contamination while the buildings and boilers were in service. Site demolition activities were completed in 2016, which allowed access for further investigation. At Rayonier AM's request, LAI completed a soil screening investigation to better delineate the vertical and horizontal extent of No. 6 fuel oil contamination present as petroleum non-aqueous phase liquid (NAPL). The objectives of the investigation were as follows:

- Conduct a field-screening "sheen test" on soil samples to identify areas of potential interest for mobilization of contamination from NAPL-phase No. 6 fuel oil
- Assess the mobility of the No. 6 fuel oil contamination by determining whether the extent of contamination identified in 1993 had migrated farther from the original source area.

On September 7 and 8, 2016, samples were collected from multiple depths in 19 soil borings (PH-17 through PH-36; maximum 15 feet [ft] below ground surface [bgs]) in the Powerhouse Area to characterize NAPL contamination in soil. Soil boring locations are shown on Figure B-1. Boring depth information is provided on Table B-1.

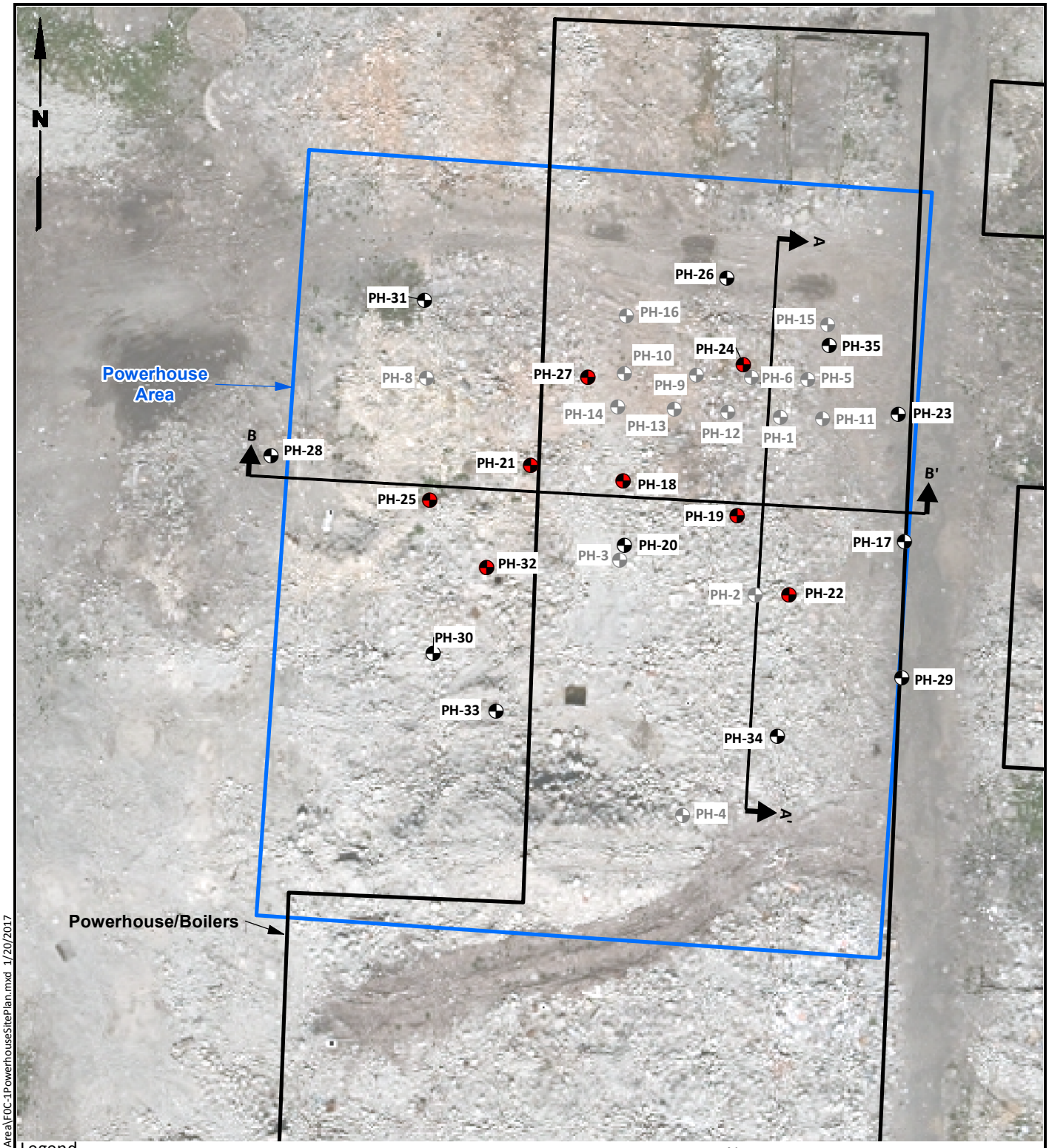
Soil borings were advanced using a standard truck-mounted direct-push drill rig. Due to subsurface infrastructure (concrete building foundations, pile caps, and grade beams), several drilling locations had to be abandoned, and boring locations were adjusted as needed. Soil cores were collected in disposable polyethylene liners and samples were screened for contamination using sheen testing techniques. Field soil sheen tests were conducted by mixing a small amount of sample with tap water in a clear glass jar. The sample was broken up and allowed to mix with the water. No. 6 fuel oil NAPL, if present, would rise to the surface of the water for clear viewing as a petroleum sheen.

Cross-section Figures B-2 and B-3 present features observed during drilling activities, including the approximate extent of No. 6 fuel oil NAPL contamination in soil. Contamination in soil consisted of a dark brown to black, viscous and low-mobility petroleum product typical of degraded No. 6 fuel oil. Samples exhibited a strong sheen (during field sheen tests), variable odor, and generally dark color. Soil encountered was generally fill material consisting of sands or silty sands, construction debris, and some potentially native material (deepest depths only). The native material, higher in silt content, was not observed to contain No. 6 fuel oil NAPL and is likely acting as a barrier to further vertical migration on the contamination.

Soil samples were not collected for laboratory analysis. Groundwater was not encountered during the investigation. Consistent with results from sampling conducted during the investigation performed in

the 1990s, the contamination has not migrated beyond the boundaries of the former Powerhouse building. NAPL was identified in a horizontal area approximately 80 ft by 120 ft. NAPL was identified at a maximum depth of 13 ft bgs. The extent of NAPL contamination in each boring (PH-17 through PH-36) is provided in Table B-1.

During the course of the investigation, an extensive network of surface and subsurface concrete infrastructure was encountered. The surface-level concrete (2-ft-thick concrete slabs containing 1- to 1.5-inch-diameter rebar) and the subsurface concrete (1- to 2-ft-thick pile caps and grade beams with 1- to 1.5-inch-diameter rebar) present logistical challenges for removal of the residual soil contamination. The same concrete infrastructure presents benefit to the state of the residual soil contamination: the concrete foundation functions as a surface cap to prevent groundwater infiltration.



Legend

- Soil Boring - NAPL Not Encountered
- Soil Boring - NAPL Encountered
- Soil Boring - Historical
- Historical Building or Structure
- Powerhouse Area Investigation Area
- Cross Section Location

0 40 80

Scale in Feet

Data Sources: Rayonier, Inc; Grays Harbor GIS 2013.

Notes

1. Creosote logs and creosote stained soil were encountered at PH-31, however the product identified in other borings was not observed. Therfore, PH-31 is assumed to be outside the boundary of NAPL contamination.
2. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

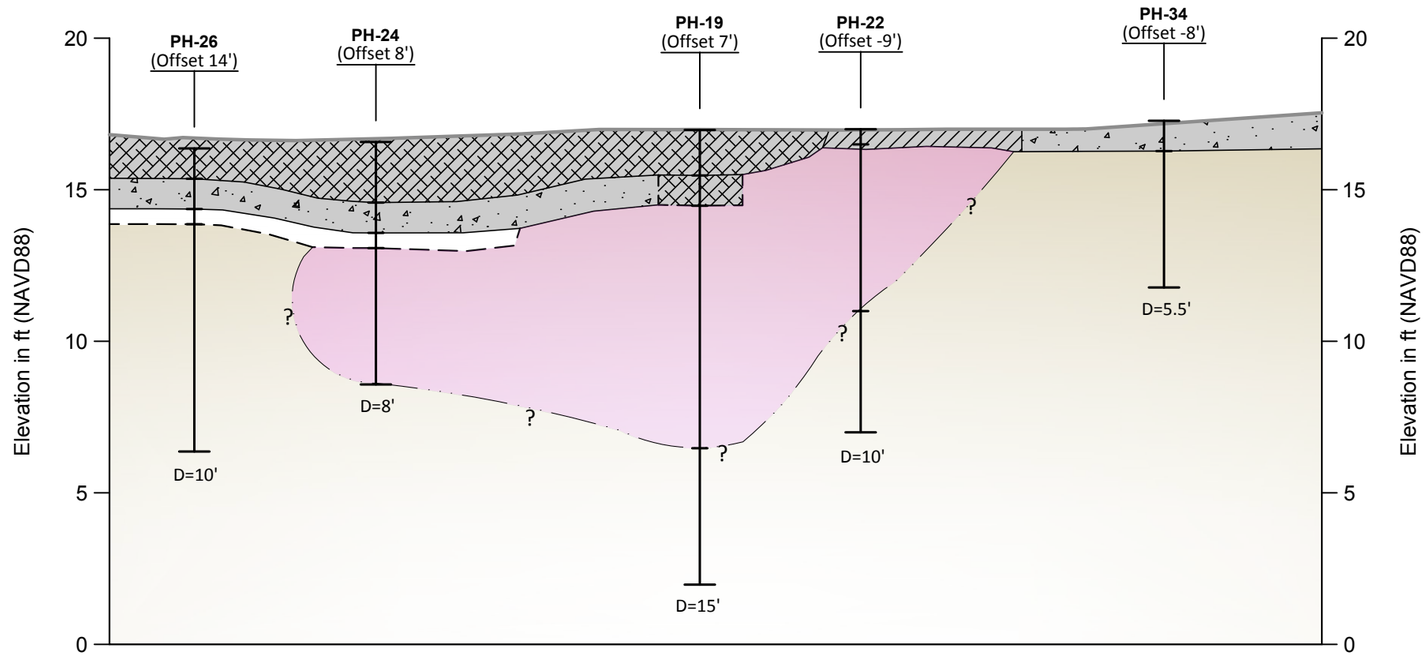
G:\Projects\016\046\030\031\Powerhouse Area\F0C-1PowerhouseSitePlan.mxd 1/20/2017

LANDAU ASSOCIATES

Rayonier Advanced Materials
Powerhouse Area
Hoquiam, Washington

Powerhouse Area Site Plan

Figure
B-1



Geologic Profile A-A'

Horizontal Scale in Feet: 1"=20'
Vertical Scale in Feet: 1"=5'

Legend

PH-26 — Boring designation
(Offset 3') — Horizontal offset (ft)
— Top of casing
— Geologic contact
— Bottom of boring
D=15' — Boring depth (ft bgs)

- Demolition rubble
- Concrete
- Asphalt
- Void space
- Soil without NAPL
- Soil containing NAPL

0 20 40
Scale in Feet
4X Vert. Exaggeration

Elevation data source: USGS Lidar

Notes:

1. Subsurface features are based on interpretation of field data. Contacts shown are based on interpretation between exploration locations. Actual contacts may differ from those shown.
2. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

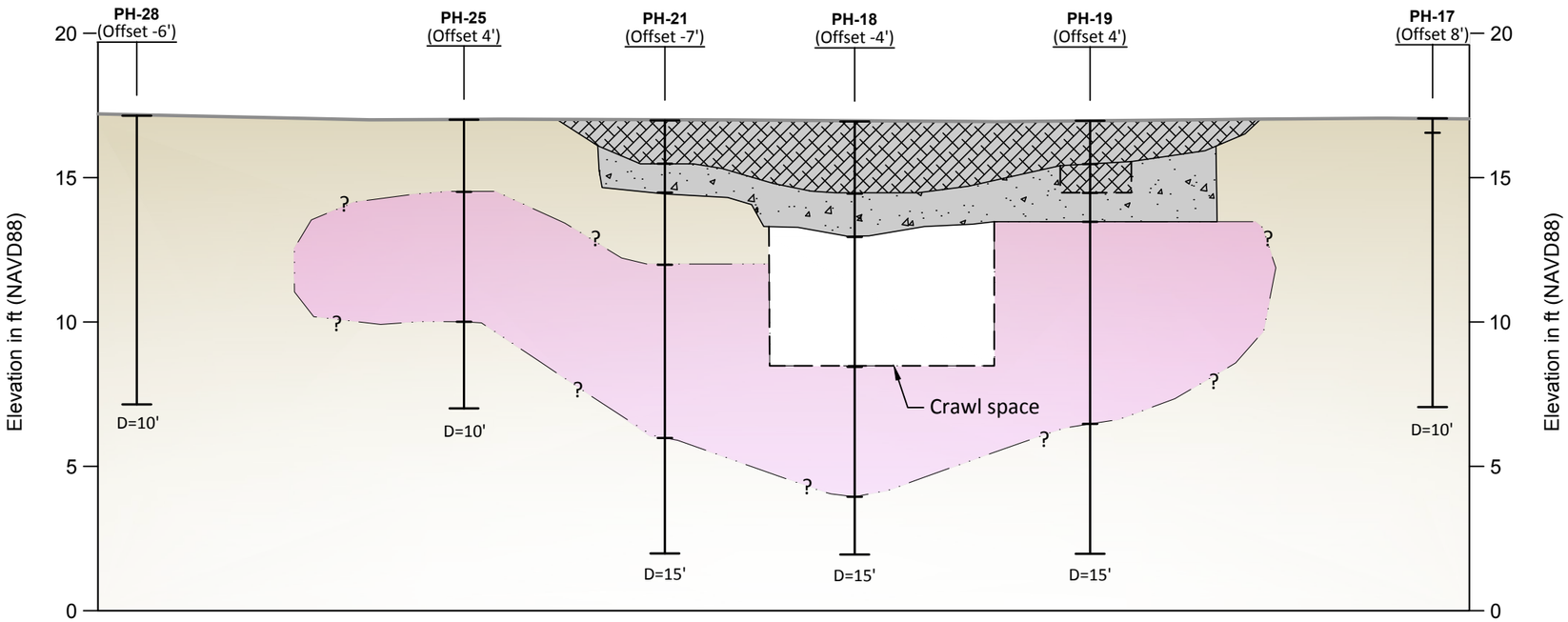
LANDAU ASSOCIATES

Rayonier Advanced Materials
Powerhouse Area
Hoquiam, Washington

Cross Section A-A'

Figure
B-2

LANDAU ASSOCIATES, INC. | G:\Projects\016\046\030\031\Powerhouse Area\F0C-2 F0C-3 GeoSection AA BB.dwg (A) "Figure C-2" 2/24/2017



Geologic Profile B-B'

Horizontal Scale in Feet: 1"=20'
Vertical Scale in Feet: 1"=5'

Legend

PH-26 — Boring designation
(Offset 3') — Horizontal offset (ft)
— Top of casing
— Geologic contact
— Bottom of boring
D=15' — Boring depth (ft bgs)

- Demolition rubble
- Concrete
- Asphalt
- Void space
- Soil without NAPL
- Soil containing NAPL

Notes:

1. Subsurface features are based on interpretation of field data. Contacts shown are based on interpretation between exploration locations. Actual contacts may differ from those shown.
2. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Elevation data source: USGS Lidar

0 20 40
Scale in Feet
4X Vert. Exaggeration

Rayonier Advanced Materials
Powerhouse Area
Hoquiam, Washington

Cross Section B-B'

Figure
B-3

LANDAU ASSOCIATES

LANDAU ASSOCIATES, INC. | G:\Projects\016\046\030\031\Powerhouse Area\F0C-2 F0C-3 GeoSection AA BB.dwg (A) "Figure C-3" 2/24/2017

Table B-1
Powerhouse Area Soil Screening Investigation
Former Grays Harbor Paper Mill Facility
Hoquiam, Washington

Boring ID	Depth (ft bgs)	Depth of NAPL Encountered (ft bgs)
PH-17	10	--
PH-18	13	8.5 - 13
PH-19	15	10 - 12.3
PH-20	10	--
PH-21	15	5 - 11
PH-22	10	3.8 - 6
PH-23	10	--
PH-24	8	5 - 8
PH-25	10	2.8 - 6.9
PH-26	10	--
PH-27	7	3 - 6.3
PH-28	10	--
PH-29	10	--
PH-30	6	--
PH-31	10	--
PH-32	15	5.5 - 6.6
PH-33	10	--
PH-34	5.5	--
PH-35	4.5	--

-- = Indicates NAPL not observed at boring location.
ft bgs = feet below ground surface.

APPENDIX C

No Further Action Determination Letters

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

P.O. BOX 47600 • Olympia, Washington 98504-7600 • (206) 459-6000

December 15, 1993

Post-It™ brand fax transmittal memo 7671 | # of pages ▸ 2

To Jack Anderson	From PSkyNingstad
Co. ITT Shelton	Co. WDOE
Dept.	Phone # 407-6949
Fax # 426-7537	Fax #

Mr. Jack A. Anderson
ITT Rayonier Inc.
Research Center
409 East Harvard Ave.
Shelton, WA 98584

Dear Mr. Anderson:

Thank you for submitting the results of your independent remedial action for Ecology's review. Ecology appreciates your initiative in pursuing this administrative option under the Model Toxics Control Act.

The Washington State Department of Ecology's Industrial Section has reviewed the following information regarding the silvichemical site located within the ITT Rayonier Grays Harbor Division pulp mill property at 22nd St. and Railroad Ave Hoquiam, Washington:

1. Independent Remedial Action Report submitted December 6, 1993.

2. Several Environmental Site Assessments by Pacific Environmental Group, Inc. received February 4, 1993.

3. Calculation of Cleanup Standards, Grays Harbor Pulp Facility, Hoquiam, Washington, received February 4, 1993.

Based upon the above listed information Ecology has determined that, at this time, the site does not pose a threat to human health or the environment as a result of the release addressed in the independent remedial action report.

Therefore, Ecology is issuing this determination that no further action is necessary at this site under the Model Toxics Control Act (MTCA), Ch. 70.105D RCW. However, please note that because your actions were not conducted under a consent decree with Ecology, this letter is not a settlement by the state under RCW 70.105D.040(4).

This determination is made only with respect to the release identified in the independent remedial action report dated December 6, 1993 and with the exception of your compliance with the following actions:

1. Deed restriction of removal of ground water beneath the facility for drinking water purposes.

2. Notification of the Department of Ecology of further changes of ownership of the Silvichemical section of the property.

The deed restriction is required at the site because levels of chromium VI found in the upper aquifer are unknown at this time and could exceed both the Method A and Method B cleanup standards found in WAC 173-340-720. Data has been submitted for total chromium but not chromium VI and III. The deed restriction may not be required; if further data is available from monitoring wells MW-1, MW-6, and MW-7 concerning levels of chromium VI beneath the site

and the levels are found to be below cleanup standards. If this data is available please submit it to the Department for review.

This no further action determination applies only to the area of the property affected by the release identified in the report of December 6, 1993. It does not apply to any other release or potential release at the property, any other areas on the property, nor any other properties owned or operated by ITT Rayonier, Grays Harbor Division.

Ecology does not assume any liability for any release, threatened release or other conditions at the site, or for any actions taken or omitted by any person or his\her agents or employees with regard to the release, threatened release, or other conditions at the site.

Ecology will update its database to reflect this "No Further Action" determination. Your site will not appear in future publications of the Confirmed & Suspected Contaminated Sites Report (previously know as the Affected Media And Contaminants Report.)

If you have any questions, please contact Paul Skyllingstad of the Industrial Section at 407-6949.

Sincerely,

Paul Skyllingstad
Industrial Section

pes:

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

P.O. Box 47600 • Olympia, Washington 98504-7600
(360) 407-6000 • TDD Only (Hearing Impaired) (360) 407-6006

October 21, 1996

Mr. Jack A. Anderson
Rayonier, Inc.
409 East Harvard Avenue
Shelton, WA 98584-3771

RE: Grays Harbor Mill Site - Boneyard Area at Grays Harbor Mill Site

Dear Mr. Anderson:

Thank you for submitting the results of your independent remedial action for Ecology's review. Ecology appreciates your initiative in pursuing this administrative option under the Model Toxics Control Act.

The Washington State Department of Ecology's Industrial Section has reviewed the following information regarding the Grays Harbor Mill Site - Boneyard Area that was formerly part of the Rayonier Sulfite Pulp Mill Facility located at 803 23rd Street, Hoquiam, Washington:

1. Independent remedial action report dated January 9, 1995.

2. Documents submitted:

   Jack Anderson letter dated January 9, 1995.

   Request for Review/Independent Remedial Action Report

   Independent Remedial Action Report Summary

   Independent remedial Action Report Detail

   General Map of Mill Site

   Areas Exceeding Cleanup Standards

   Estimated Costs for Remediation Options

   Estimate of Capping by Berglund, Schmidt & Assoc., Inc.
   Drawing of Proposed Capping Plan

   September 1993 Boneyard Assessment Report by Pacific Environmental Group

June 1994 Boneyard Assessment Report by Pacific Environmental Group

September 1994 Groundwater Monitoring Report for 2nd Quarter

November 2, 1994 Report on Excavation of Soil Near BY-16

November 9, 1994 Soil Assessment Report Near BY-3

January 1995 Groundwater Monitoring Report for 3rd and 4th Quarter of 1994

The above-named reports were prepared without Ecology oversight such as would occur under an Agreed Order or Consent Decree. However, based upon the information summarized in these reports and a site visit; Ecology has determined that, at this time, the site no longer poses a threat to human health or the environment.

This no further action determination is conditioned on your recording of a Restrictive Covenant on the property deed at the Grays Harbor County records office no later than December 31, 1996. Recording the Restrictive Covenant on the deed for your property is a condition to maintain Ecology's no further action determination. Also, failure to abide by any portion(s) of the Restrictive Covenant may result in Ecology's withdrawal of its no further action determination. In addition, this no further action determination does not apply to any remedial actions determined necessary as a result of confirmational monitoring.

Therefore, Ecology is issuing this determination that no further action is necessary at this site under the Model Toxics Control Act (MTCA), Ch. 70.105D RCW. However, please note that because your actions were not conducted under a consent decree with Ecology, this letter is not a settlement by the state under RCW 70.105D.040(4). Although Ecology is issuing the determination that no further action appears to be necessary to protect human health and the environment, this determination does not release you from any maintenance at the site. Failure to conduct necessary maintenance may result in Ecology's withdrawal of this no further action determination.

This determination is made only with respect to the release identified in the independent remedial action report. This no further action determination applies only to the area of the property affected by the release identified in the report at the Boneyard Area. It does not apply to any other release or potential release at the property, any other areas on the property, nor any other properties owned or operated by Rayonier. [This no further action determination does not apply to remedial actions determined necessary as a result of confirmational monitoring.]

Ecology does not assume any liability for any release, threatened release or other conditions at the site, or for any actions taken or omitted by any person or his\her agents or employees with regard to the release, threatened release, or other conditions at the site. Ecology reserves the right to require further action at the site with regard to the soil or other contaminated media if new or different information other than that presented in the above reports becomes known or available.

Ecology will update its database to reflect this "No Further Action" determination. Your site will not appear in future publications of the Confirmed & Suspected Contaminated Sites Report (previously known as the Affected Media And Contaminants Report).

If you have any questions, please call me at (360) 407-6934.

Sincerely,

Marc E Crooks

Marc E. Crooks, P.E.
Pulp and Paper Mill Specialist
Industrial Section

cc: Paul Skyllingstad, Ecology
Mike Palko, Ecology

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

P.O. Box 47600 • Olympia, Washington 98504-7600
(360) 407-6000 • TDD Only (Hearing Impaired) (360) 407-6006

October 23, 1996

Mr. Jack A. Anderson
Rayonier, Inc.
409 East Harvard Avenue
Shelton, WA 98584-3771

RE: Grays Harbor Mill Site - Log Yard

Dear Mr. Anderson:

Thank you for submitting the results of your independent remedial action for Ecology's review. Ecology appreciates your initiative in pursuing this administrative option under the Model Toxics Control Act.

The Washington State Department of Ecology's Industrial Section has reviewed the following information regarding the Grays Harbor Mill Site - Log Yard Area that was formerly part of the Rayonier Sulfite Pulp Mill Facility located at 803 23rd Street, Hoquiam, Washington:

1. Independent remedial action report dated December 11, 1995.

2. Documents submitted:

   Jack Anderson letter dated December 11, 1995.

   Request for Review/Independent Remedial Action Report

   Independent Remedial Action Report Summary

   Sampling reports by Pacific Environmental Group on the Site Sampling Results dated November 4, 1994; November 7, 1994; February 7, 1995; and May 24, 1996.

   Dr. James E. Bruya's letter dated November 23, 1994.

The above-named reports were prepared without Ecology oversight such as would occur under an Agreed Order or Consent Decree. However, based upon the information summarized in these reports, and site visits, Ecology has determined that, at this time, the site no longer poses a threat to human health or the environment.

This no further action determination is conditioned on your recording of a Restrictive Covenant on the property deed at the Grays Harbor County records office no later than December 31, 1996. Recording the Restrictive Covenant on the deed for your property is a condition to maintain Ecology's

no further action determination. Also, failure to abide by any portion(s) of the Restrictive Covenant may result in Ecology's withdrawal of its no further action determination. In addition, this no further action determination does not apply to any remedial actions determined necessary as a result of confirmational monitoring.

Therefore, Ecology is issuing this determination that no further action is necessary at this site under the Model Toxics Control Act (MTCA), Ch. 70.105D RCW. However, please note that because your actions were not conducted under a consent decree with Ecology, this letter is not a settlement by the state under RCW 70.105D.040(4). Although Ecology is issuing the determination that no further action appears to be necessary to protect human health and the environment, this determination does not release you from any maintenance at the site. Failure to conduct necessary maintenance may result in Ecology's withdrawal of this no further action determination.

This determination is made only with respect to the release identified in the independent remedial action report. This no further action determination applies only to the area of the property affected by the release identified in the report at the Log Yard Area. It does not apply to any other release or potential release at the property, any other areas on the property, nor any other properties owned or operated by Rayonier. [This no further action determination does not apply to remedial actions determined necessary as a result of confirmational monitoring.]

Ecology does not assume any liability for any release, threatened release or other conditions at the site, or for any actions taken or omitted by any person or his\her agents or employees with regard to the release, threatened release, or other conditions at the site. Ecology reserves the right to require further action at the site with regard to the soil or other contaminated media if new or different information other than that presented in the above reports becomes known or available.

Ecology will update its database to reflect this "No Further Action" determination. Your site will not appear in future publications of the Confirmed & Suspected Contaminated Sites Report (previously known as the Affected Media And Contaminants Report). If you have any questions, please call me at (360) 407-6934.

Sincerely,

Marc E Crooks

Marc E. Crooks, P.E.
Pulp and Paper Mill Specialist
Industrial Section

cc: Paul Skyllingstad, Ecology
Mike Palko, Ecology

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

P.O. Box 47600 • Olympia, Washington 98504-7600
(360) 407-6000 • TDD Only (Hearing Impaired) (360) 407-6006

October 31, 1996

Mr. Jack A. Anderson
Rayonier, Inc.
409 East Harvard Avenue
Shelton, WA 98584-3771

RE: Grays Harbor Mill Site - Finishing Area

Dear Mr. Anderson:

Thank you for submitting the results of your independent remedial action for Ecology's review. Ecology appreciates your initiative in pursuing this administrative option under the Model Toxics Control Act.

The Washington State Department of Ecology's Industrial Section has reviewed the following information regarding the Grays Harbor Mill Site - Finishing Area that was formerly part of the Rayonier Sulfite Pulp Mill Facility located at 803 23rd Street, Hoquiam, Washington:

1. Independent remedial action report dated February 1, 1996.

2. Documents submitted:

   Jack Anderson letter dated February 1, 1996.

   Request for Review/Independent Remedial Action Report

   Independent Remedial Action Report Summary

   Independent remedial Action Report Detail

   General Map of Mill Site

   Detailed Site Map

   4/1/94 Discussion of Situation by Pacific Environmental

   9/22/95 Report by Pacific Environmental

The above-named reports were prepared without Ecology oversight such as would occur under an Agreed Order or Consent Decree. However, based upon the above listed information, and a site visit, Ecology has determined that, at this time, the site no longer poses a threat to human health or the environment.

This no further action determination is conditioned on your recording of a Restrictive Covenant on the property deed at the Grays Harbor County records office no later than December 31, 1996. Recording the Restrictive covenant on the deed for your property is a condition to maintain Ecology's no further action determination. Also, failure to abide by any portion(s) of the Restrictive Covenant may result in Ecology's withdrawal of its no further action determination. In addition, this no further action determination does not apply to any remedial actions determined necessary as a result of confirmational monitoring.

Therefore, Ecology is issuing this determination that no further action is necessary at this site under the Model Toxics Control Act (MTCA), Ch. 70.105D RCW. However, please note that because your actions were not conducted under a consent decree with Ecology, this letter is not a settlement by the state under RCW 70.105D.040(4). Although Ecology is issuing the determination that no further action appears to be necessary to protect human health and the environment, this determination does not release you from any maintenance at the site. Failure to conduct necessary maintenance may result in Ecology's withdrawal of this no further action determination.

This determination is made only with respect to the release identified in the independent remedial action report. This no further action determination applies only to the area of the property affected by the release identified in the report at the Finishing Area. It does not apply to any other release or potential release at the property, any other areas on the property, nor any other properties owned or operated by Rayonier. [This no further action determination does not apply to remedial actions determined necessary as a result of confirmational monitoring.]

Ecology does not assume any liability for any release, threatened release or other conditions at the site, or for any actions taken or omitted by any person or his\her agents or employees with regard to the release, threatened release, or other conditions at the site. Ecology reserves the right to require further action at the site with regard to the soil or other contaminated media if new or different information other than that presented in the above reports becomes known or available.

Ecology will update its database to reflect this "No Further Action" determination. Your site will not appear in future publications of the Confirmed & Suspected Contaminated Sites Report (previously known as the Affected Media And Contaminants Report).

If you have any questions, please call me at (360) 407-6934.

Sincerely,

Marc E Crooks

Marc E. Crooks, P.E.
Pulp and Paper Mill Specialist

cc: Paul Skyllingstad, Ecology
Mike Palko, Ecology

APPENDIX D

Copies of Selected Historical Documents
(on DVD)