1. INTRODUCTION

This remedial investigation (RI) report is prepared for the uplands environment of the former Rayonier Mill site (Site) located in Port Angeles, Washington, in accordance with the provisions of an Agreed Order between the Washington State Department of Ecology (Ecology) and Rayonier. The RI has been conducted according to the requirements promulgated under the State of Washington's Model Toxics Control Act (MTCA), Chapter 173-340 WAC, and represents a collaborative effort between Rayonier, Ecology, and the Lower Elwha Klallam Tribe (Tribe) to establish the nature and extent of chemicals associated with the Site.

Investigation and cleanup of the Site is being managed under two separate units—the Uplands Environment and the Marine Environment. This report presents the findings of the RI for the Uplands Environment. The Uplands Environment includes soils (surface and subsurface), groundwater, and fresh surface water and sediments (Ennis Creek) associated with the Site. Offsite surface soils potentially impacted by aerial emissions originated from the mill property are also a component of the Uplands Environment. The Marine Environment, which includes marine areas in the Port Angeles Harbor adjacent to the Site, is addressed in a separate RI.

The objective of the RI is to determine the nature and extent of chemicals of potential concern (COPCs) at the Site and determine the current and future risks to human health and the environment—focusing on collecting, developing, and evaluating enough information to select an appropriate cleanup action. The evaluation of the nature and extent of COPCs at the Site is based on data and information collected during the RI field investigation conducted in 2003 and, where appropriate, on previous Site investigations and interim cleanup and removal actions conducted at the Site.

The scope and methods of the work conducted during the RI are described in *Management Plans for the Remedial Investigation – Feasibility Study of the Uplands Environment* (Uplands Management Plan) (Integral 2004), which consists of a work plan, sampling and analysis plan (SAP), and a quality assurance plan. The Uplands Management Plan presents an initial evaluation of the nature and extent of chemicals at the Site based on previous Site characterization efforts and interim cleanup and removal actions. This initial evaluation identified data gaps in the Site characterization to be addressed during the RI. This RI presents the findings of the 2003 RI field investigation and evaluates these findings in conjunction with previous Site information to develop a comprehensive understanding of the nature and extent of chemicals associated with the mill site Uplands Environment.

1.1 Regulatory History and the Remedial Investigation/Feasibility Study Process

Prior to closure, the Site was subject to routine regulatory compliance inspections by the City of Port Angeles, Ecology, and the U.S. Environmental Protection Agency (EPA), including a multi-media compliance investigation in 1993. After closure of the mill in 1997, the EPA initiated a site assessment and hazard ranking scoring process [as described in USEPA (1990)] to determine if the mill property should be recommended for the National Priorities List (NPL) under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). An expanded site investigation (ESI) was conducted in support of this effort (E&E 1998). EPA later opted to defer the listing and allow cleanup to proceed under Ecology's direction.

In Washington State, the administrative process and standards for investigation and cleanup of facilities impacted by hazardous substances are promulgated under MTCA (WAC 173-340). Under WAC 173-340-350, MTCA stipulates that a remedial investigation and feasibility study (RI/FS) is required once a site is prioritized for remedial action. The purpose of the RI is to collect and compile the necessary data to adequately characterize the nature and extent of any COPCs so that the risk posed to human health and the environment may be assessed.

The information compiled in the RI and associated risk assessments forms the basis for preparation of a FS, in which appropriate cleanup action alternatives are developed and evaluated based on the specific conditions presented by the Site. These potentially feasible cleanup action alternatives are evaluated against the requirements and expectations stipulated by MTCA (WAC 173-340-360 and 370) to select an appropriate cleanup action(s) that is protective of human health and the environment. The selected remedy is then set forth in a Cleanup Action Plan, which establishes the basis for design and implementation of the cleanup action. The overall goal of the process is to reduce, control, or eliminate any unacceptable risk associated with hazardous substances present in the Uplands Environment of the former Rayonier Mill Site.

As stipulated by MTCA, a minimum 30-day period will be provided for comment on the RI/FS report(s). Furthermore, recognizing that several other regulatory agencies have a stake in the cleanup at the Site, Ecology, the Tribe, and Rayonier established a regulatory technical advisory group (RTAG) to provide member agencies' interests and concerns at key points in the cleanup process. The agencies represented on the RTAG include:

- City of Port Angeles
- Clallam County Environmental Health Division
- Washington Department of Natural Resources
- Washington Department of Fish and Wildlife
- Agency for Toxic Substance and Disease Registry
- National Oceanic and Atmospheric Administration

- Washington Department of Health
- U.S. Fish and Wildlife Service.

The technical advisor for the Olympic Environmental Council (OEC) is also included in meetings and communications between Ecology and the RTAG.

1.2 Report Organization

This RI report was developed in accordance with MTCA and prepared based on the EPA's *Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA* (OSWER Directive 9355.3-01). Remaining sections of this report include the following:

- ***Section 2**: **Site Background*** – This section presents the Site location, historic and current land use, operational history, and environmental setting.
- ***Section 3**: **Summary of Interim Cleanup and Removal Actions and Previous Site Investigations*** – This section summarizes the interim cleanup and removal actions and Site investigations that were completed at the mill prior to the initiation of the RI.
- ***Section 4**: **Remedial Investigation*** – The overall design and methods for the RI sampling efforts and any deviations from the Uplands Management Plan are described.
- ***Section 5**: **Nature and Extent of COPCs in Mill Soils, Residential Soils, and Freshwater Sediments*** – This section evaluates the nature and extent of chemicals in soils and freshwater sediments based on data collected during the RI and previous investigations/cleanup efforts.
- ***Section 6**: **Nature and Extent of COPCs in Groundwater*** – An evaluation of the nature and extent of chemicals in groundwater based on data collected during the RI and previous investigations/cleanup efforts is described.
- ***Section 7: Fate and Transport*** – This section summarizes the sources of COPCs associated with the Uplands Environment and an evaluation of the processes that will influence their transport and fate, and identifies potential receptors that may be affected by these chemicals.
- ***Section 8: References*** – Citations referenced in the text, tables, figures, and appendices are provided in this section.

Supplemental information is provided in the eight appendices to this report.

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