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## The Hidden History of Western Washington Logging Camps: St. Paul and Tacoma Lumber Company's Camp #5 ca. 1934-1947

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THE HIDDEN HISTORY OF WESTERN WASHINGTON LOGGING CAMPS:  
ST. PAUL AND TACOMA LUMBER COMPANY'S CAMP #5 ca. 1934-1947

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A Thesis

Presented to

The Graduate Faculty

Central Washington University

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In Partial Fulfillment

of the Requirements for the Degree

Master of Science

Cultural and Environmental Resource Management

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by

Kayley Marie Bass

August 2017

CENTRAL WASHINGTON UNIVERSITY

Graduate Studies

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## ABSTRACT

### THE HIDDEN HISTORY OF WESTERN WASHINGTON LOGGING CAMPS:

#### ST. PAUL AND TACOMA LUMBER COMPANY'S CAMP #5 ca. 1934-1947

Kayley Marie Bass

August 2017

Despite the importance of logging to Washington State's heritage, there is little information on the life in the logging industry and the lumbermen who helped shape western Washington. The St. Paul and Tacoma Lumber Company (SPTLC) harvested the Kapowsin Timberlands from the early 1900s to the late 1950s. The logging camps located within these timberlands can provide information on the organization of these industry camps as well as on the daily lives of the men that would help build one of the most important industries in Washington. This thesis employed archaeological and historical approaches to understand this period of history. The archaeology approach focused on the documentation of a SPTLC Camp #5, an 80 by 71 m surface scatter dominated by broken glass, ceramics, and tin cans. Diagnostic artifacts were most likely all manufactured before 1947, which is consistent with SPTLC maps that state Camp #5 was in use from 1934 through 1947. The nature of these artifacts complements the historic record from company records, which includes an inventory of camp supplies and correspondence to and from camp employees.

## ACKNOWLEDGEMENTS

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## CHAPTER I: INTRODUCTION

Logging is an important part of Washington State heritage. In the early days of Pacific Northwest logging, Washington was the heart of the industry, leading the country in lumber production from 1905 until 1939, apart from the year 1913 when Louisiana produced more lumber (Melton 1939:8). Western Washington was initially covered by an almost solid forest and, among Western states, had the highest percentage of total wooded area in the early 20<sup>th</sup> century (Defebaugh 1906:337-340). The early 20th century increase in population in the Puget Sound region was primarily the result of the forests, from the logging of the trees to the manufacturing of the lumber (Buchanan 1936:34). Washington State also set various records in the logging industry, including producing 20% of the nation's total lumber in 1926, an estimated 7,546,000,000 board feet (Melton 1939:8).

The logging industry of the late 19th and early to mid-20th centuries typically established camps in or near areas that were in the process of being logged in order to allow for easier access to the harvest units (Morgan 1982:66). Despite the importance of the timber industry to Washington, there is little information on life in these logging camps, possibly due to their impermanent structures and distance from major cities in western Washington. There are stories on the experiences of being a lumberman that were recorded, but these stories have led to information gaps because these men primarily

worked in Oregon and British Columbia rather than Washington (Buchanan 1936:34; Churchill 1965; Grainger 1988). This thesis aims to gain missing information about not only these logging camps, but the daily lives of the lumbermen.

The research area chosen for investigation of logging camps was the Kapowsin Timberlands (Figure 1). The Kapowsin Timberlands, named so by the current land managers due to its proximity to both the town of Kapowsin and Lake Kapowsin (Robert Bass, personal communication, April 27, 2017), was chosen as the study area for several reasons, including the continuity of logging operations that have occurred on the property since the late 1890s, my family connection to this land, and discovery of historic maps of logging camps located on the property in the early to mid-1900s (Stier 1946, 1947).

The initial phase of research was the location of a logging camp with the potential for both archaeological traces and historical data from the St. Paul and Tacoma Lumber Company (SPTLC). Using unpublished company maps (Stier 1946, 1947), several possible camp locations were investigated, and Camp #5 was chosen for the thesis research. According to the Stier maps, Camp #5 was owned and operated by the SPTLC between 1934 and 1947.

Archaeological traces of Camp #5 were recorded with pedestrian survey and mapping in 2016-2017 to provide material evidence of life in this camp. Corresponding archival work was undertaken with SPTLC records, as well as historic logging photographs at the University of Washington. The current field office for the Kapowsin Timberlands, operated by Hancock Forest Management, was investigated for other historic records, photographs and maps.

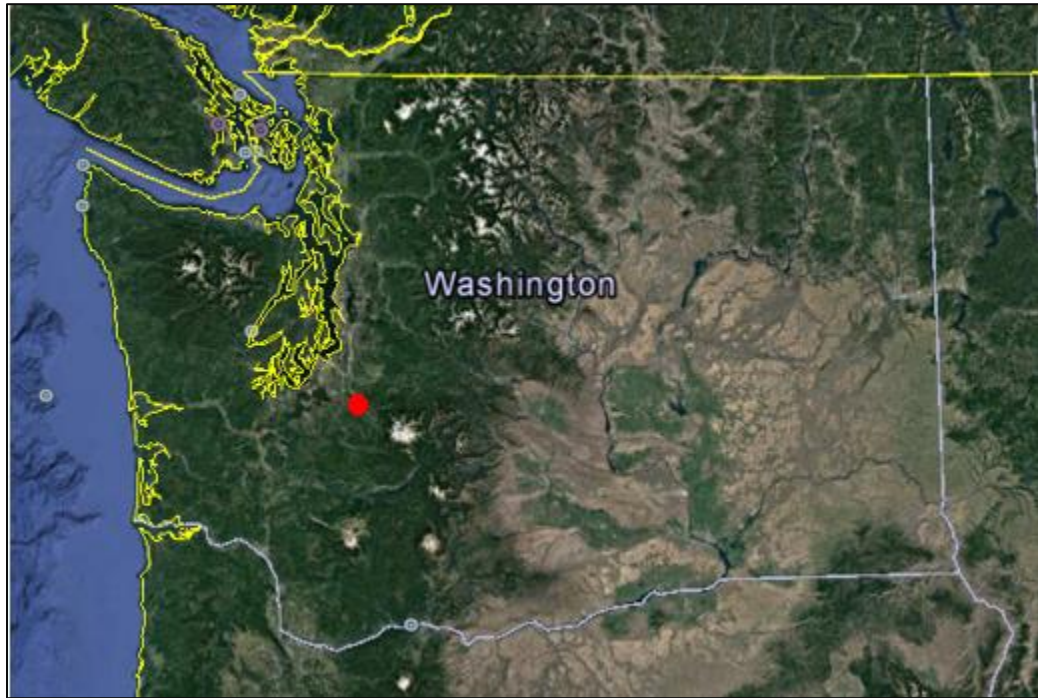


Figure 1. Locations of the study area, the Kapowsin Timberlands, denoted by the red dot. Modified from Google Earth (2017).

My research will shed light on life in a western Washington logging camp, using both historical and archaeological methods, to better understand this aspect of state history. While much has been written about logging in the Pacific Northwest, there is little written about the early 20<sup>th</sup> century logging camps and the life of the workers whom resided there. Additionally, as there are few archaeology sites recorded in the Kapowsin Timberlands, any site documented will provide new information on the history of the area. The lack of recorded sites was confirmed by an examination of the Washington Information System for Architectural and Archaeological Records Data (WISAARD) on February 28, 2016. Any site found on the Kapowsin Timberlands has the possibility of being added to the National Register of Historic Places or the Washington Heritage

Register. Finally, the study will benefit the private timber company in planning and future management of the site. By recording and filling in the data gap, a greater understanding can be gained of the timber industry and the lumbermen that shaped western Washington's economy into what it is today.

### **Organization of Thesis**

In Chapter II, I discuss the environmental and cultural setting of the Kapowsin Timberlands. Chapter III describes the methods used in completing this thesis. Chapter IV establishes a history and background of logging camps, specifically those located in western Washington and the Kapowsin Timberlands. In Chapter V, I share the results of my fieldwork including locational information and artifact descriptions. In Chapter VI, I discuss my interpretations and conclusions of the Camp #5 site and the timber industry in western Washington. A glossary of important terms is located in Appendix A for the reader's convenience.

## CHAPTER II: ENVIRONMENTAL AND CULTURAL SETTING

One-half of Washington State is covered by forestland with most of the forests lying west of the Cascade Mountain Range (Washington Forest Protection Association 2016a). In the late 1930s, it was once said that one acre of timber in the Pacific Northwest boasted more harvestable timber than five acres of the thickest forest for both the East Coast and the Midwest (Holbrook 1938:161). These dense, profitable forests resulted in an industry key to the establishment of Washington State. The area now called the Kapowsin Timberlands has been a working forest since the early 1890s (Robert Bass, person communication, April 27, 2016), beginning first with SPTLC (Morgan 1982). The Kapowsin Timberlands are in Pierce County, Washington, specifically located east of the towns of Orting and Kapowsin, west of Mount Rainier National Park, north of the town of Ashford, and south of the town of Buckley (Hancock Forest Management 2016).

### **Physical Setting**

Washington state forests are divided into seven regions by the Washington Forest Protection Agency (2016b), and the Kapowsin Timberlands are in the lowland forest region, as show in Figure 2. This region, extending from Puget Sound to the western edge of the Cascade Mountains, includes Washington's largest forested area. The lowland forest region receives approximately 70 inches of rainfall annually while also



enjoying moderate temperatures year-round (Washington Forest Protection Agency 2016b). These conditions have created an idyllic place for growing a variety of trees, which has resulted in the area being harvested since the early 1900s. The present forest areas consist primarily of second-growth and third-growth trees.

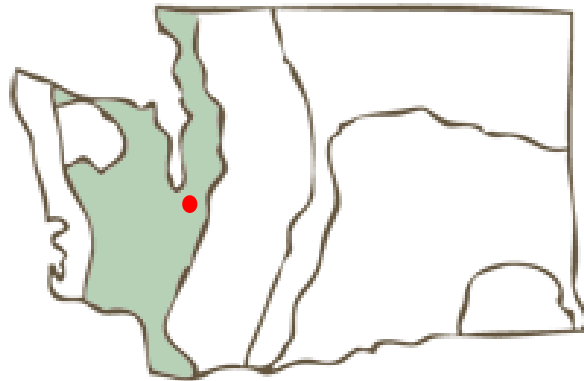


Figure 2. Location of the lowland forest region of Washington State, marked in green and Kapowsin Timberlands located with red dot. Modified from Washington Forest Protection Agency (2016b).

The soils in the lowland forest region are rich in nutrients that support and sustain the forests and other vegetation in the area. These soils were formed from glacial materials composed primarily of gravelly sandy loam with loose gravels, sands, or hard cemented till below (Franklin and Dyrness 1973:17). The topography varies, but due to the property's proximity to Mt. Rainier, it has several hills, and therefore the elevation can vary greatly. I measured the elevation of the Kapowsin Timberlands at the Hancock Forest Management-Kapowsin Field Office, the lowest point, and at Puyallup Ridge Lookout, the highest point. According to the Garmin GPSmap 62s, which I used to collect data during my fieldwork, the elevation ranges from approximately 150 to 4,820 feet above sea level.

Surface water in the Kapowsin Timberlands includes streams and lakes. Mount Rainier and its glaciers feed into many of the water bodies located in the forests of western Washington, including those found on the Kapowsin Timberlands. The major waterways located on the Kapowsin Timberlands are the Puyallup River, Voight Creek, and Lake Kapowsin.

Surface water was important to the Washington timber industry of the nineteenth century for its role in sorting or transporting logs. Photographic evidence shows that Lake Kapowsin, approximately 490 acres in size, was the only surface water used in logging on the Kapowsin Timberlands (Stier 1995:59-60; Washington State Department of Fish and Wildlife 2016b); see Figure 3. The lake was used by the company to hold the logs during sorting (Stier 1995:59-60). After sorting, the logs would be transported by train from Lake Kapowsin to the company's sawmills located in Commencement Bay.

### **Tree Species**

The climate and soils make for suitable growing conditions for the enormous forests that cover the land west of the Cascades (Ficken 1987:3). When the first Europeans stepped foot in the Pacific Northwest, the forests were spectacular with trees measuring 250 feet tall and trunks 6 to 8 feet in diameter (Drushka 1992:14). The forests covering the Pacific Northwest are comprised of more evergreens than almost any other place in the country (Washington Forest Protection Agency 2016b). There are nearly 25 native tree species residing in Washington's forests that have been used in a variety of forest products (Figure 4). The most common and popular forest products are made from

several prominent tree species such as Western red cedar (*Thuja plicata*), Sitka spruce (*Picea sitchensis*), Western hemlock (*Tsuga heterophylla*), and Douglas-fir (*Pseudotsuga menziesii*) (Defebaugh 1906:335; Ficken 1987:3; Washington Forest Protection Association 2016b).

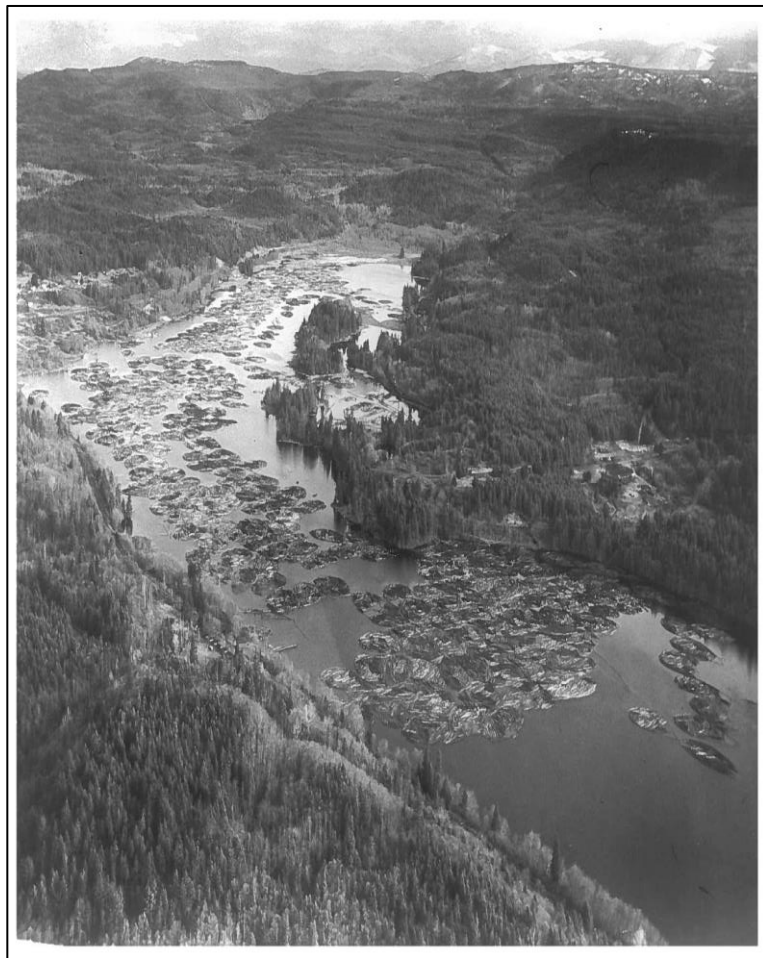


Figure 3. Undated photograph of Lake Kapowsin holding logs during the sorting process. This photograph is currently located at Hancock Forest Management's field office located on the Kapowsin Timberlands office in Kapowsin, Washington.

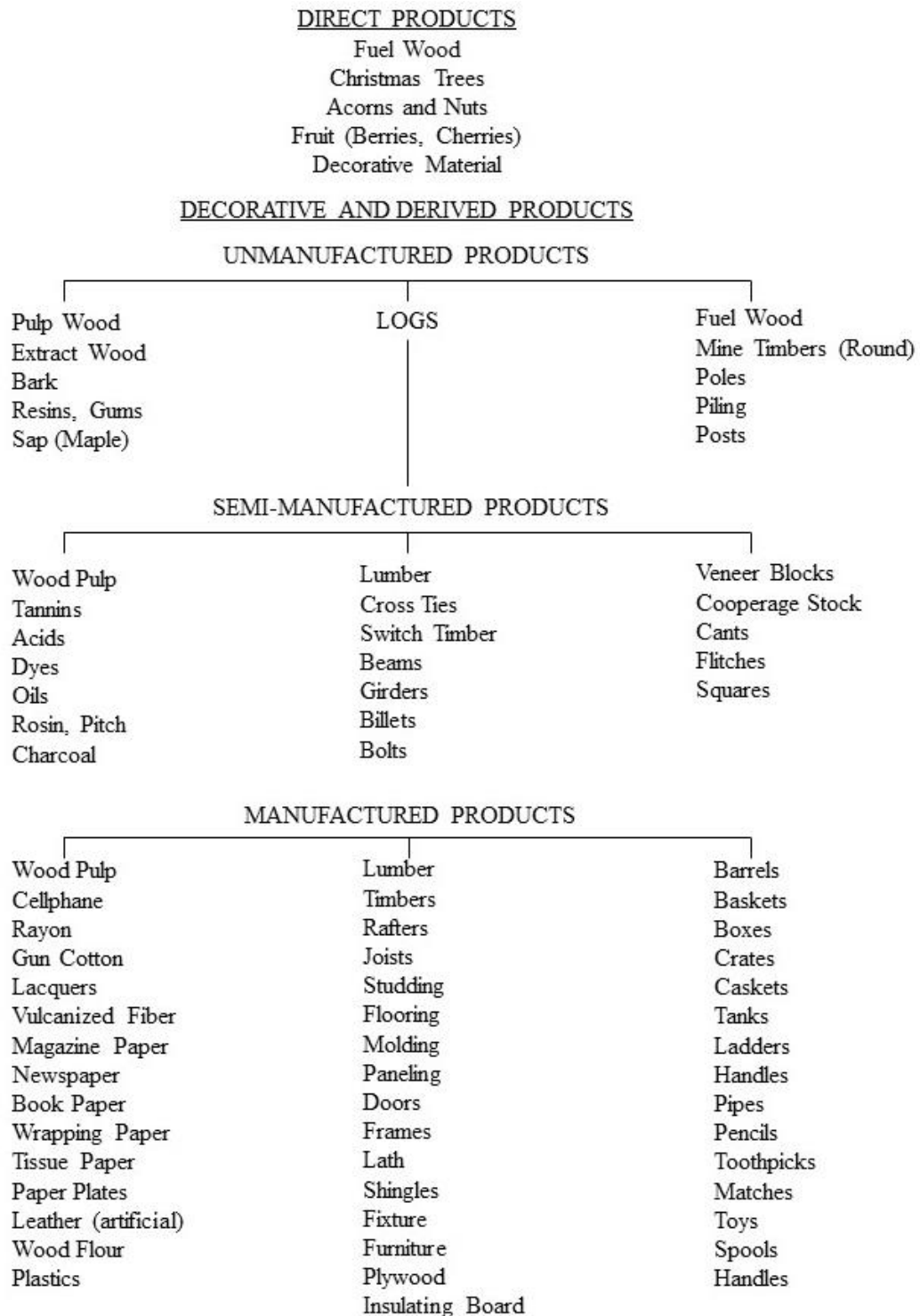


Figure 4. Examples of forest products from the late 1930s (Melton 1939:5-6).

Western red cedar was favored by settlers for cabins and shingles due to a natural oil, which made the wood less susceptible to decay, while Sitka spruce was valued commercially because it did not warp or split due to its lightness, strength, and straight-grain (Ficken 1987:5; Lyons 1999:26). Sitka spruce was used for airplanes in World War I (see Figure 5), and still is used for boxes, musical instruments, and racing shells (Ficken 1987:5; Lyons 1999:26). For years, the Western hemlock was known as a weed tree because it was dominated by the giants of Washington's forest—Douglas-fir, western red cedar, and Sitka spruce (Lyons 1999:20). Western hemlock did not become popular until the expansion of the pulp and paper industry for its use in products such as newsprint (Ficken 1987:5; Washington Forest Protection Association 2016b).

Douglas-fir (*Pseudotsuga menziesii*) is the most impressive tree and was, and still is, the foundation of the lumber industry in the Pacific Northwest (Ficken 1987:4; Lyons 1999:18). The Douglas-fir tree is often the preferred species for numerous forest landowners in the Pacific Northwest, primarily because this tree species thrives in all forest regions (Washington Forest Protection Association 2016b). Douglas-fir is a highly sought-after tree for its strength in lumber, which allows for its usage in heavy construction (Ficken 1987:4). The Douglas-fir prefers growing in open sunlight and thrives in land that has been cleared by harvesting or fire (Washington Forest Protection Agency 2016b).



Figure 5. Illustration on the cover of a 1918 booklet emphasizing the importance of Sitka Spruce during World War I (Loyal Legion of Loggers and Lumbermen 1918).

### Past Land Use

Before white settlers moved into western Washington, the land was inhabited by peoples primarily from the present-day Puyallup and Muckleshoot tribes (Ruby and Brown 1992:115). The Puyallup and Muckleshoot tribes ceded the land that the Kapowsin Timberlands now lie on in the Medicine Creek Treaty, signed on December 26, 1854 (Kent 2005:346). Around the same time, loggers and sawmill operators of Northern European and Canadian descent immigrated from their respective countries or

from the American East Coast and Midwest to the Puget Sound region around what is now called the Kapowsin Timberlands (Cox 1974:33; Stier 1995:1).

The Kapowsin Timberlands was first owned by the Northern Pacific Railroad, which was chartered by President Abraham Lincoln and Congress in July of 1864 in order to connect Lake Superior to the shores of the Puget Sound (Laubaugh and McCoy 2009). For each mile of track constructed, the Northern Pacific Railroad would receive alternate sections of land in a twenty-mile wide parcel on either side of the railroad line (Ficken 1987:44). By 1882, the Northern Pacific Railroad had accumulated 7.7 million acres in the Washington Territory, 2 million of which consisted of commercial timberland (Ficken 1987: 45). They initially became interested in selling the timberlands when they wanted to expand business to the East Coast (Morgan 1982:49). In order to achieve this, Northern Pacific decided to sell parcels of their land to lumber companies under the agreement that these companies would open sawmills that would produce lumber that would meet the needs of the East Coast (Morgan 1982:51).

In 1886, five men, including Chauncey W. Griggs, Addison Foster, Henry Hewitt Jr., P.D. Norton, and C.H. Jones, joined and purchased 80,000 acres of timberland from the Northern Pacific Railroad, beating out 70 other interested buyers (Ficken 1987:59, Morgan 1982:5) in what would become the Kapowsin Timberlands. After purchasing the timberland, SPTLC formally organized two years later in June of 1888 under the direction of Chauncey W. Griggs (Ficken 1987:59; Stier 1995:7-8).

The timberlands stayed under the ownership and management of SPTLC until the company was absorbed by St. Regis in 1957 (Morgan 1982:264). Since then, the

timberlands have transferred multiple hands. In the early 2000s, the land was managed by Campbell Group and International Paper. Today, the Kapowsin Timberlands are owned by Hancock Natural Resource Group and its private investors and is managed by Hancock Forest Management (Hancock Forest Management 2016). Since 1886, the Kapowsin Timberlands have been managed as a working forest, producing a sustainable resource.

The land is currently in use by the forestry industry, tribal members, and recreational users. Tribal members of the Puyallup Tribe, Nisqually Tribe, and Muckleshoot Tribe are often granted access to cultural resources such as mushrooms and berries (Robert Bass, personal communication 2016). Recreational users, primarily hunters, can recreate on the property if a permit is purchased from Hancock Forest Management. Recreation users must comply with the Hancock Forest Management recreation access permit rules and Washington State hunting regulations. However, the primary use of the property is for the timber resource, with continuous harvesting and reforestation and other related forest management activities.

### **Historical Archaeology of Logging Camps**

Understanding the historical archeology that could be found in logging camps is important in accurately interpreting and providing information on life in a camp and can also allow for continuity in writing a story about life in a logging camp throughout the Pacific Northwest. The temporary and portable nature of these camps should be considered when deciding what archaeological remnants might exist. Investigations at



other logging camp sites in Washington and Oregon may help provide information on what might be found at Camp #5.

One logging camp (45PI1305) has been previously recorded on the Kapowsin Timberlands. In fact, it is the only site documented and submitted to Washington State Department of Archaeology and Historic Preservation (DAHP), based on a search of the Washington Information System for Architectural & Archaeological Records Data (WISAARD) online system on February 28, 2016. This site was recorded during an archaeological survey of a proposed timber harvest unit, Hancock Forest Management Harvest Unit TM0087 (Butler and Gilpin 2013). This investigation was conducted by Historical Research Associates (HRA) in 2013 for the proposed 46-acre harvest and road construction on the southern boundary of the harvest unit. The project consisted of a pedestrian survey followed by shovel probe tests in high probability zones as defined by HRA's predictive model. Seventy-two shovel probes were dug with only five shovel probes being positive. The positive shovel tests resulted in artifacts spread over a 22 m by 21 m area, including saw blades, shards of flat glass, cast iron fragments, and chimney glass shards, recorded as site 45PI1305 (Butler and Gilpin 2013:116). Other archaeological surveys conducted for proposed timber harvests on the Kapowsin Timberlands have not recorded archaeological sites, and these negative reports have not been provided to DAHP because this is not required by law (Robert Bass, personal communication, April 17, 2017).

A brief review of logging camp investigations elsewhere in the Pacific Northwest is provided here to indicate some of the material remains that could be found in the thesis

investigation of Camp #5. A Coates, Bishop and McCash Railroad Logging Camp, located in the Olympic National Forest in Washington state, was discovered by a forestry technician while laying out a timber sale (Hollenbeck 1983:1-2). Historical records and personal communication with former camp workers and camp visitors assisted in establishing the approximate location of the logging camp while surface material and aerial photographs verified these records and provided the area the camp occupied (Hollenbeck 1983:13).

After locating fallen building materials and dumps, fourteen units 2 ft. by 4 ft. in size were excavated in arbitrary levels of six inches in 1981 (Hollenbeck 1983:20). All fourteen units were culturally positive, recovering artifacts such as various types of ceramics, window glass, remnants of leather work boots, and Prince Albert tobacco cans, which are all artifacts characteristic of 1920 Washington logging camps (Hollenbeck 1983:38). Following the completion of the excavations, a surface collection was conducted from four different places, Area 1A, 1B, 1C and Area 2. Area 1A included kitchen and food debris, Area 1B is the central part of the logging camp and is characterized by two sets of parallel logs that bunkhouses were most likely placed on, and Area 1C consisted of artifacts such as oil cans, head of a felling axe, and other artifacts linked to the logging industry (Hollenbeck 1983:28-30). Area 2 included both personal belongings in addition to kitchen and food debris (Hollenbeck 1983:28).

In the Gifford Pinchot National Forest, Skamania County, Washington, archaeological data recovery was conducted on a logging camp in 1992 and again from 2002-2004 (Mack 2005). The 2002-2004 investigation (Mack 2005) was conducted in

order to mitigate the impacts associated with a dam removal project. Camp 3 was operated by the Storey and Keeler/Wind River Lumber Company from 1901 to 1925 (Mack 2005:25). The establishment of Camp #3 was recorded in the April 2<sup>nd</sup>, 1903 edition of *Skamania County Pioneer* with the approximate location of the Camp 3 bunkhouse found in company correspondence (Mack 2005:10-11, 24). After locating a number of artifacts on or just below the duff layer, six 1 x 1 m units were excavated in arbitrary 10 cm levels (Mack 2005:42). These excavations resulted in over 3,000 historic and 200 prehistoric artifacts with the majority of the historic artifacts being recovered in the same locale as the Camp 3 bunkhouse (Mack 2005:50). Personal belongings such as suspender clips, rivets, leather shoe fragments, comb, bone toothbrush head, fragments of pocket watches, and a whiskey flask were recovered at the site (Mack 2005:53-62). Eight medicinal glass bottles were also located on the surface including a glass bottle labeled as “Anti-Bilious Pergative Pills” (Mack 2005:58).

In addition to the artifacts, there were many features documented in the area in the 2002-2004 investigations. The most notable features include a dump feature, rock structure bases, and a depression. An important feature, located near a wooden splash dam and bridge which were both constructed in the 1930s, consisted of a dump of wire rope and pipe which most likely originated from a splash dam when it was torn down (Mack 2005:19). (A splash dam is a temporary wooden structure, constructed in streams and rivers, which was used to raise the water level until the reservoir was filled with logs, then the spillway was released and the rush of water would help transport the logs downstream to the sawmills (United States Forest Service 2017:1).) Feature 10 is a

historic rock feature composing a rock structure with a stove top fragment and other artifacts discovered nearby (Mack 2005:42). This feature is almost identical to another feature (Feature 12) that was discovered in the 1992 excavations. Feature 11 is a depression located approximately where, based on historic photos of the camp, the privy was placed (Mack 2005:43). A feature such as a privy could give more insight into what the camp residents consumed.

A third logging camp site is located in Pierce County, Washington. This camp (Site 06-05-07-59) was associated with the Manley-Moore Lumber Company in the Carbon Valley, and was thought to be in use from about 1912 to 1914 (Miss et al. 2000:i). Eighty-five, 1 x 1 m units were excavated at this camp located near a split in a visible railroad grade (Miss et al. 2000:37). These excavation units resulted in the recovery of ceramic, glass, leather, metal, cans, and other miscellaneous artifacts. Artifacts include ceramic dining ware, such as dining and serving plates; window glass which the authors classified as any flat glass that was 1/18 in. thick; and leather, fragments typical of calk work boots (Miss et al. 2000:49-57). Metal artifacts include enamelware kettles, utensils such as measuring spoons, cast iron stove parts, nails, wire rope fragments, and a locomotive spark arrester (Miss et al. 2000:57-64). Additionally, a number of cans were recovered, for example, four cans identified as lard buckets, hole in top cans, milk cans, meat cans, a coffee can, and tobacco/cigarette tins (Miss et al. 2000:64-66). There were also a number of mammal bones from animals such as sheep, pig, and cow (Miss et al. 2000:92).

In addition to these examples from Washington, there are also a couple of examples of logging camps located in Oregon. In an archaeological survey of a 1920s-logging camp in Clackamas County, Oregon, Paullin (2007) recorded industrial artifacts such as broken asbestos bricks, steel plates, oilcan fragments, and cable remnants. Household artifacts included a slotted spoon, the blunt end of a knife, bottles, and ceramics (Paullin 2007:169-170). Another example of logging camp archaeology involves the Shevlin-Hixon Company of Bend, Oregon, a ca. 1910-1950 logging camp investigated by Gregory (1997). Historical artifacts recovered included an old wooden water pipe wrapped in metal wire, a ceramic poker chip, and the remnants of an old pig pen (Gregory 1997:149). These are just a few examples of historical archaeology already completed at logging camps in the Pacific Northwest.

Any logging camp survey has a high possibility of locating artifacts used during logging operations. Possibilities include double man hand saws, double blade falling axe, spring board, and vintage logging wedges (Eatonville to Rainier 2016; Rajala 1999:10). Other items include wires left behind by the loader, a machine used to pull felled timber out to the railroad tracks (Amato 1992:36).

Logging railroads were also an integral aspect of the timber industry, and there is the likelihood of discovering logging railroad remnants for the thesis study site. The most likely archaeological feature would be a spur. The logging railroad system can be likened to that of a tree. The system consisted of a mainline or trunk from which a collection of branches, known as spurs, would shoot off. Spurs were considered to be temporary and, once the surrounding trees were harvested, the spur was either abandoned

or moved (Adams 1961:16). If a spur was abandoned, there could be remnants of railroad ties spaced a standard 42 inches apart (Adams 1961:19).

Surveys of logging camps could also result in locating trees that had been modified during logging operations. One likely possibility is notches cut low on tree trunks for insertion of springboards. Another possible use of a tree would have been as a spar tree (Figure 6). A spar tree would have been used during high-lead logging which was introduced in 1910 (Wright 2016). A spar tree was usually 12-18 inches in diameter at the top, 3 or 4 feet in diameter at the base, and 100 to 150 feet tall (Melton 1939:43). Once the limbs and top of the tree had been cut, it was braced with various heavy cables that ran to the ground and was then secured to stumps (Melton 1939:43; Wright 2016). These cables often left marks in trees that would still be present today. The high lead logging process is described in more detail in Chapter IV.



Figure 6. Undated photograph of the base of a spar tree worn down by cables used during SPTLC logging operations in Kapowsin, Washington (C. Kinsey 2017h).

## CHAPTER III:

### METHODS

This thesis aims to discover the history of life in a logging camp located in the Puget Sound area of Washington State. Understanding of the logging industry and life in a logging camp will help paint a picture of the men who worked in the massive forests of western Washington. My study includes two main objectives or components: 1) archival and historical research; and 2) mapping and documentation of a historic logging camp.

#### **Archival and Historical Research**

Archival research was conducted in a variety of ways in order to document what life was like while living in a logging camp. My historical objective was to search archives for primary documents and photographs about life in early to late 20<sup>th</sup> century logging camps on the Kapowsin Timberlands. I visited a number of locations, which provided me with a diverse selection of information on the timber industry in western Washington. Table 1 summarizes the archival materials I consulted and where they are currently located.

The University of Washington Special Collections archive for SPTLC records includes 411 boxes. There were too many for me to examine in full, so I chose to examine 29 of these boxes for the thesis (see Appendix B). The limitation on my study of the boxes was mostly logistics—I was allowed to request only five boxes a day, and I needed to travel to Seattle and pay for parking, etc. each time. The boxes I chose to look



at were all that mentioned in the box label “camp,” fell within the time range of Camp #5, or seemed to provide any information relevant to employees.

Table 1. Archives Consulted During Research.

Archive	Material	Date Visited
University of Washington Special Collections	St. Paul and Tacoma Lumber Company records	December 12-16 & 19, 2016
University of Washington Libraries Digital Collections	Kinsey Brothers Photographs (ca. 1890-1945)	November 18, 2016
University of Washington Libraries Digital Collections	Pacific Northwest Historical Documents Collection	April 25, 2017
Hancock Forest Management-Kapowsin Field Office	Aerial photos, maps	August 24-26, 2016

For each box I examined, I looked through all the contents for items relevant to camps, camp life, employee treatment, and SPTLC logging operations. I ignored the remaining information (e.g., job applications, land acquisitions, and any information from timberlands other than the Kapowsin Timberlands). I could not get a sense of how representative the boxes I saw were of the total archive. I also did not develop a sense of what sorts of information might be missing from the archive.

I also consulted a number of published sources, such as personal accounts (e.g., Stier 1997), SPTLC company history (e.g. Morgan 1982), and overviews (e.g., Melton 1939, Ficken 1987). Especially helpful were personal accounts of life in the logging industry such as the one Stier (1997) presents. Stier (1997) provides a clear account of the evolution of early logging operations in not only Washington state, but also

specifically in the Kapowsin Timberlands beginning with the 1880s and through the 1950s. He uses not only his personal experiences, but also his father's and grandfather's stories to give a detailed and accurate history of SPTLC's story. Melton (1939) is a government report that offers a complete overview of the status of the logging industry in the 1930s, the period of interest for my thesis. It provides important information such as job descriptions and wages.

### **Mapping and Documentation of a Historic Logging Camp**

To achieve the second objective of my thesis, I first located a logging camp. I started by locating maps, stored at the current land manager field office in Kapowsin, that were produced by SPTLC in the 1940s. These maps were produced on pre-printed maps of the outline of the timberlands with handwritten additions made by R.E. Stier, an employee of the company, who signed and dated each map on the back. The first map, signed "R.E. Stier, 1946," was used to convey which stands had been logged and where logging camps were located during logging operations from as early as 1916 through 1946 (Figures 7 and 8). This map is in good condition, with only minimal fraying on the edges. It is stored in a company office and measures 66" by 37 ½".



Figure 7. Photograph of SPTLC map produced in 1946, showing timber harvest areas and all historical logging camps (Stier 1946). The title at top is “ST. PAUL & TACOMA LUMBER CO. FOREST OPERATIONS.” The legend lists the camps with their section location and dates of use, color coded for each harvest area. Dates of use are listed from 1915 to “date,” presumably meaning they were still in use when the map was updated.

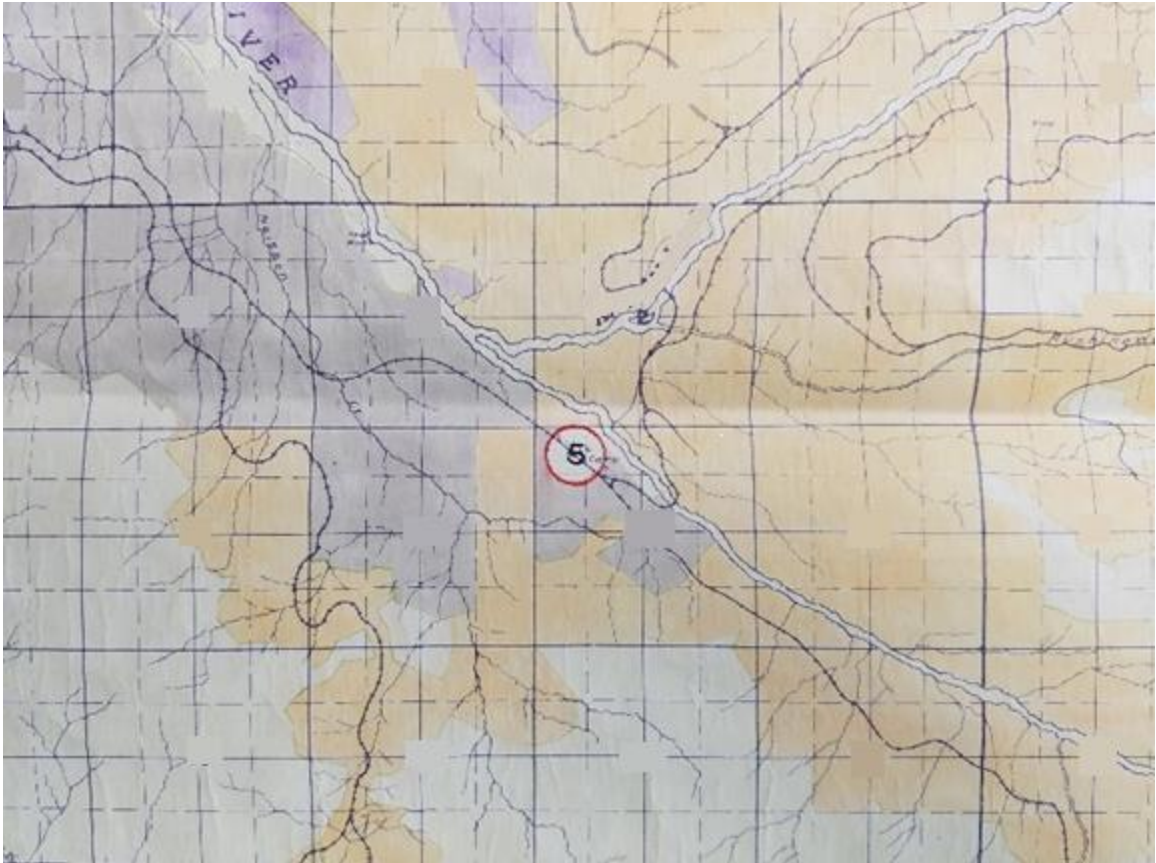


Figure 8. Closeup photograph of SPTLC map from Figure 7, showing area of Camp #5. Note its location on a rail line, proximity to the river, and situation near both the purple and orange zones indicating logging areas. According to the legend on Figure 7, the purple zone indicates the timber stands that had been logged when Camp #3 was in use from October 1926-June 1934. The orange zone indicates the timber stands that had been logged when Camp #5 was in use from February 1934 at least through 1946, when this map was last updated by Stier. Please note this figure has been altered in order to protect the exact location of the site (the section numbers have been removed).

The second map (Figures 9 and 10) depicts the same information as the previous map with the only difference being that this map fills in the ending date of many of the logging camps that are located on the previous map. These logging camps were in use from 1915 through 1947, and the map was presumably last updated in 1947 as it was signed “R.E. Stier 1947” on the back. This map, measuring 36” by 24” includes the approximate locations of logging camps as well as the dates many of the camps were in

use. The end dates for two camps on the map (the last Camp #5 and Camp #2) are listed as “date,” so we can assume they were still in use in 1947, but could have been in use after that date as well. Because this map is currently framed in one of the building offices in Kapowsin, it has been severely sun damaged.

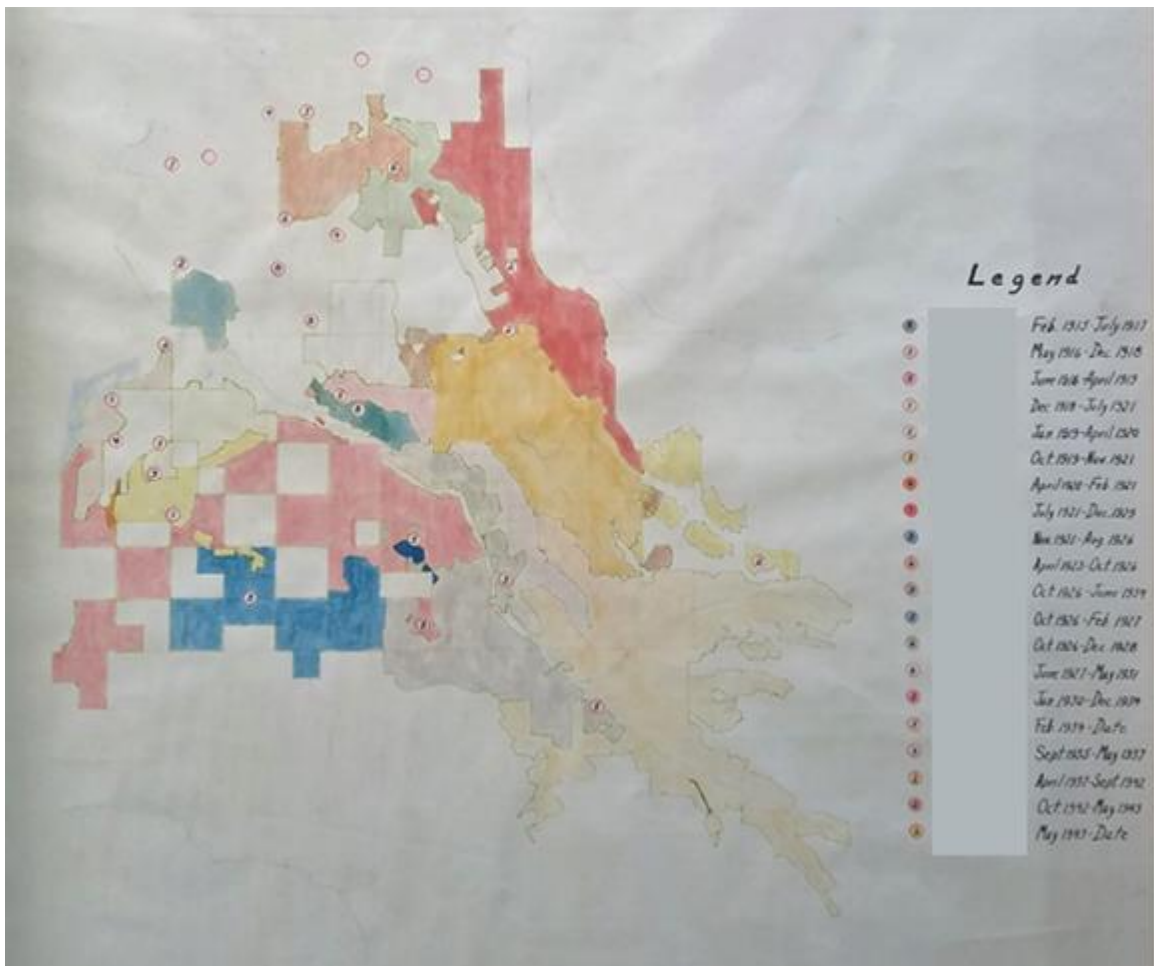


Figure 9. Photograph of SPTLC map produced in 1947, showing timber harvest areas and all historical logging camps (Stier 1947). The legend lists the camps with their section location and dates of use, color coded for each harvest area. Dates of use are listed from 1915 through at least 1947. Please note this figure has been altered in order to protect the exact location of the site (Township, Range and Section information has been removed).

### Legend

6	Feb. 1915-July 1917
1	May 1916-Dec. 1918
5	June 1916-April 1919
1	Dec. 1918-July 1921
2	Jan. 1919-April 1920
3	Oct. 1919-Nov. 1921
4	April 1920-Feb. 1921
1	July 1921-Dec. 1929
3	Nov. 1921-Aug. 1926
6	April 1923-Oct. 1926
3	Oct. 1926-June 1934
5	Oct. 1926-Feb. 1927
6	Oct. 1926-Dec. 1928
8	June 1927-May 1931
2	Jan. 1930-Dec. 1934
5	Feb. 1934-Date
3	Sept. 1935-May 1937
2	April 1937-Sept. 1942
2	Oct. 1942-May 1943
2	May 1943-Date

Figure 10. Zoom in of the legend from Figure 9. Note the section locations of each camp and corresponding dates of use. There are multiples of each camp number, with different dates of use. For example, there are three Camp #5 locations, the first one June 1916-April 1919, the second from October 1926-June 1934, and the third from February 1934 to “date.” Please note this figure has been altered in order to protect the exact location of the site (Township, Range and Section information has been removed).

In addition to historic maps, I also consulted a modern map of the Kapowsin Timberlands (Figure 11) created by current Hancock Forest Management employee, Bill Brown (2015). This map includes current property information such as the property

boundary, road system, gates, and the locations of historic logging camps, apparently based on the earlier Stier maps. This modern map of the property, measuring 44” by 36”, was useful when trying to relocate the historic camps because it showed the location of historic logging camps in relation to the modern road system. Using these resources, I selected for further investigation all six logging camps that were in use for at least three years (Table 2).

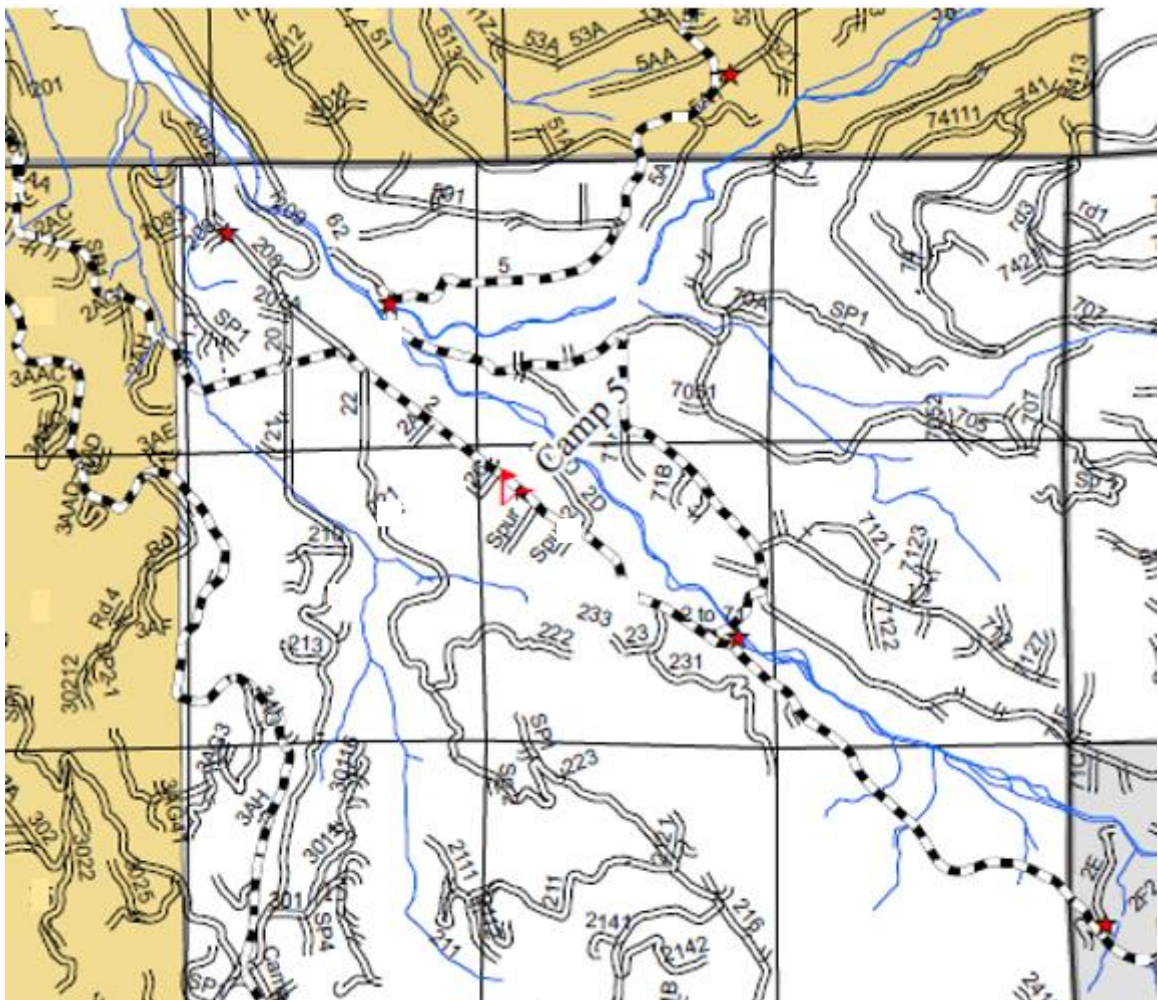


Figure 11. Zoomed in view of part of the modern map of the Kapowsin Timberlands from Brown (2015). Approximate location of the 1934-1947 Camp #5 is circled in red. On this map North is to the top and each square is a section approximately 1 mile. The barred double lines indicate gravel roads. Please note this figure has been altered to protect the exact location of the site (the section numbers have been removed).

Table 2. List of Historic Logging Camps I Attempted to Locate

Camp Name	Dates Occupied	Source
Camp 1	July 1921 – Dec 1929	Stier 1946
Camp 2	April 1937 – Sept. 1942	Stier 1946
Camp 3	Oct. 1926 – June 1934	Stier 1946
Camp 5	Feb. 1934 – 1947 or later	Stier 1947
Camp 6	April 1923 – Oct. 1926	Stier 1946
Camp 7	Jan. 1930 – Dec. 1934	Stier 1946

I completed initial investigation of the six possible logging camp locations by myself from August to September in 2016. After driving and hiking to the approximate location of each camp, I completed a pedestrian survey in a grid pattern at regular intervals of 20 m, surveying an area approximately 500 m by 500 m, depending on the density of undergrowth and other natural boundaries like cliffs or rivers. During these surveys, I was able to locate two of the six selected logging camps, Camp #3 and Camp #5. I was unable to locate any of the other six camps, which could be attributed to the layer of duff, decaying plant matter on the forest floor, which resulted in zero ground visibility. At Camp #3, I located only five artifacts, most likely due to low ground visibility as the area was logged just over a year ago. Camp #5, however, had high visibility, resulting in the recording of a large number of artifacts. I decided to focus my efforts on Camp #5 for the remainder of the thesis.

Having selected the camp, I attempted to find pertinent maps and images of the landscape that Camp #5 is located on. For this, I examined the original General Land Office map for the township (Bureau of Land Management 2017a), looked at the



ownership map records from the Bureau of Land Management (Bureau of Land Management 2017b), and looked through aerial photos located at Hancock Forest Management-Kapowsin Field Office, the current land manager. I also looked at some lidar images of the camp location in an attempt to find evidence of railroad grades that might be hidden by vegetation using the Washington State Department of Natural Resources Washington Lidar Portal (Washington State Department of Natural Resources [WSDNR] 2017). Additionally, I completed a field investigation to look for traces of Camp #5.

### **Field Methods**

To begin recording Camp #5, I first divided the site into quadrants with the center point being a prominent concentration of bricks. A close pedestrian survey was executed at less than 1 meter intervals which I conducted myself on March 16, 2017. For each line of the close-interval survey, I walked until I saw no more artifacts for 10 meters, left a pin flag at this point, and turned around and returned to the site center. My goal during this close pedestrian survey was to take a comprehensive inventory of any artifacts or features. In addition to surface artifacts, I looked for cultural modification of trees, including scarring on the bark and placement of wires or insulators on trees, but was unable to find any signs of modification. I surveyed all larger trees, ignoring those that are smaller and younger. During the survey, I flagged all potentially diagnostic artifacts for later recording, and kept a running tally of all other artifacts including glass and ceramic fragments.

After completing the pedestrian survey and inventory, I returned to the site the next day, March 17, 2017, to photograph, record, and sketch all the diagnostic artifacts I had flagged the day before. For each diagnostic artifact, I recorded dimensions in inches, any visible text or markers, and other pertinent technological information that would help me in identifying the age, function, and behavioral implications of the discovered artifacts. In addition to flagging the diagnostic artifacts, I also recorded three metal concentrations and a brick concentration for easy relocation later in my fieldwork.

The site boundary, previously established during the close interval pedestrian survey, was extended 10 m past the last artifact to ensure that the site would be secure during any logging operations that may occur in the vicinity. Unfortunately, this protocol was not followed for the northwestern boundary as I had to stop short due to an uncrossable barrier of a ditch filled with water from the snowmelt. This resulted in the northwestern boundary line being less than 10 m from the last artifact in this direction. (In future archaeological investigations, I would not extend the site boundary 10 m past the last artifact, but instead put a buffer in ArcGIS).

I recorded GPS data points of the diagnostic artifacts, artifact concentrations, and the site boundary, using a Garmin GPSMap62s unit. All GPS locations recorded were taken as points, using the Waypoint Averaging feature with two sets of samples to average. Each sample set was taken for 2-4 minutes until 80% sample confidence was achieved. Satellite service on the Kapowsin Timberlands was poor due to low sky visibility, which prevented me from getting 100% Sample Confidence on the Waypoint Averaging. The Waypoint Averaging feature was used to take GPS data points as it

removes temporary errors in GPS position and is beneficial in dense tree cover, where conditions are challenging (Garmin 2009). Site boundary points were also taken every 10 m beginning at the north boundary flag and traveling clockwise until I reached the north boundary flag again. The only exception to this was the northwest boundary, due to the previously mentioned blockage, which resulted in a straight line being drawn here to connect the northwest boundary.

I did not perform pedestrian survey outside of the artifact boundaries except as noted. There was an area of private property nearby for which I was not permitted access, and so the area to the southwest was not examined. It is possible that other portions of the site with fewer artifacts could be extant there, especially in light of images on the 1952 air photo I obtained in July 2017. This air photo also indicated related railroad features extant in 1952 within  $\frac{1}{4}$  mile of the site that were not investigated because this was unknown at the time of fieldwork.

Another aspect of the fieldwork component was compiling information for the current land manager's records in addition to gathering material on the importance of the site for its future management. Originally, I planned to complete a State of Washington Archaeological Site Inventory Form and submit it to the Washington State Department of Archaeology and Historic Preservation, but this step was not completed at the landowner's request. I also evaluated the site contents to provide a recommendation for its eligibility for listing on the National Register of Historic Places using the criteria in National Register Bulletins (Little et al. 2000; Shrimpton 2002).

## CHAPTER IV: HISTORY OF LOGGING AND LOGGING CAMPS IN THE PACIFIC NORTHWEST

The timber industry first began in America on the East Coast, in places like Maine, before moving westward into Wisconsin, Michigan, and Minnesota (Stier 1995:6). The timber industry then began the move to the West Coast in the early 1840s, seeking the economic opportunities that the forests promised (Cox 1974:33). Captain Stephen Smith and Henry H. Hunt, along with other associates, are credited with being the founding founders of the Pacific Coast lumber industry with the establishment of their sawmill in San Francisco, California in 1843 (Cox 1974:21). The first loggers were of Northern European and Canadian descent and enjoyed the Pacific Northwest environment, as it was similar to that of their homeland (Stier 1995:1).

During the early days of the Washington timber industry, the timber nearest to bodies of water was logged first because of its close proximity to the water, allowing for easy transportation to sawmills (Morgan 1982:66). Logging operations in western Washington initially began in 1852 at Commencement Bay in Tacoma, and teams of bulls were used to haul timber out of the woods and to water to then be floated to timber mills (Center for the Study of the Pacific Northwest 2016; Tacoma Lumberman's Club 1923:7). However, as technology advanced, timber companies were able to move their businesses to wherever the trees were growing through the use of a logging railroad.

These logging railroads allowed timber companies to expand their logging operations, reaching timber they never would have been able to before. SPTLC was able

to move nearly 50 miles away from Commencement Bay to one of the most sought-after land parcels, now known as the Kapowsin Timberlands, purchased in 1886 from the Northern Pacific Railroad (Morgan 1982:5; Stier 1995:7-8). The logging railroad also made SPTLC the first company in the Pacific Northwest to deliver their timber entirely by rail, increasing the company's efficiency (Fickens 1987:59; Center for the Study of the Pacific Northwest 2016).

Logging camps were established throughout timberlands of the Northwest to house lumbermen and other pertinent company members. In the beginning, logging camps were uncomfortable shacks with a high turnover rate of men. Logging camps with poor living standards and meager food were said to have three crews: "one coming, one going, and one working" (Prouty 1973:21). Eventually, companies began to invest in more sophisticated camps to keep men from leaving, although many employers did not want to make this investment (Prouty 1985:27-33). There is no particular reason that these camps began to transition from railroad cars fixed as bunkhouses, dining halls, and other buildings, to semi-permanent camps on skids beyond the need for convenience and the desire for better living standards (Prouty 1985:27).

By the time period of interest for this thesis, ca. 1920-1950, logging camps were usually closely situated to railroads (see Figures 12 and 13) to allow for easier and faster transportation of timber to sawmills (Morgan 1982:66). The camps that existed around the 1920s consisted of an office car located near the main railroad line, bunkhouses, a kitchen area or dining hall, and a cold locker (Stier 1995:76). The cold locker was arguably one of the most important buildings as the men had to eat three full meals a day

in order to make it through the work day, and logging camps went through great lengths to ensure the door was secure against bears (Demay 2016; Kurelek 1974:3).



Figure 12. Closeup view of 1928 map of all railroads in Washington State (Office of the Secretary of State 2017). Notice the St. Paul and Tacoma Lumber Company (“ST. P. & T. LB. CO.”) railroad lines near Wingate, Lake Kapowsin and Ohop, Washington.

Most camps were temporary and could range anywhere from a canvas tent to a boxcar to wooden bunkhouses, depending on how long the company planned to stay there (Barber 1952; Stier 1995:3). In rare cases, companies had floating camps such as the ones found around Vancouver Island in the 1930s and 1940s (Taylor 1975:55). In later years, logging camps developed in order to house families, including individual shacks

and eventually schoolhouses (Barber 1952). These sturdier camps were also made transportable in order to change locations when nearby timber became scarce (Amato 1992:10). The roots of many cities and towns in Western Washington can be traced back to early logging camps, for example, the present town of Enumclaw, Washington (Demay 2016).



Figure 13. Photograph of SPTLC's Camp No. 6, near Voight Creek, ca. 1932 (C. Kinsey 2017 a).

## **Occupations and Logging Technology**

When the first loggers stepped on the West Coast and set their eyes on the trees that grew on the banks of the Columbia River and along the shores of the Puget Sound, they could not believe the size of the timber (Holbrook 1938:161). In the late 1870s, Samuel Wilkeson, a business agent for the Northern Pacific Railroad, was sent to the West Coast to scout the proposed path for a rail line from Minnesota to Washington Territory. In his report, he wrote:

“Oh! What timber! These trees—these forest of trees—so enchain the sense of the grand so enchant the sense of the beautiful that I linger on the theme and am loth to depart. Forests in which you cannot ride a horse—in which you cannot possibly recover a game you have shot without the help of a good retriever—forests into which you cannot see, and which are almost dark under a bright midday sun—such forests, containing firs, cedars, pine, spruce, and hemlock, envelop Puget Sound and cover a large part of Washington Territory, surpassing the woods of all the rest of the globe in the size, quantity and quality of the timber.” [Williams 1976:19]

Due to the vast size of the logs, logging techniques were different compared to what was used on the East Coast and had to develop quickly to keep up with the high demand for timber. New tools and technology developed to address the difference in log size, topography, and climate (Shull 1926:1). For instance, on the East Coast, the primary falling tool was a pole axe, but in the late 1870s, the double-bitted axe was



developed to help deal with the larger timber on the West Coast (Drushka 1992:32).

Most of the early West Coast loggers believed the logging process consisted of just two tasks, “knocking ’em down, and dragging ’em out,” but logging operations are more intricate than this, and depending on the size of the logging operation, it might take hundreds of employees to complete the job (Drushka 1992:32).

There were a large number of occupations within the logging industry, and these changed as the years went on. In the 1930s, around the time of Camp #5, there were an estimated 350 different jobs in the timber industry including management positions, camp support staff, and the men who completed the logging operations (Melton 1939: 95-109; SPTLC 1941). It should be noted that several of the 350 job positions had more than one person who completed each task and the number of employees depended entirely on the scale of the logging operations and the technology being used. The following sections will summarize typical employees who worked in the camps and logging operations. A list of these positions are provided in Tables 3 and 4. A glossary of common terms found in the logging industry can be found in Appendix A.

Table 3. List of Employees at Camps

Category	Job Titles
Management Positions	General manager, logging superintendent, foresters, logging engineer
Office Positions	Timekeeper, stenographer, bookkeeper
Camp Kitchens	Cook, waiter/waitress, dishwasher, flunky
Logging Operations Support	Blacksmith, blacksmith assistant, welder, saw filers
Other Support Staffs	Bedmaker, drag saw man, bull cook

Table 4. List of Employees Completing Logging Operations

Category	Job Titles
Timber Felling	Cruiser, feller, buckler, brush piler, brush burner, bull buckler, windfall buckler
Yarding Crew	Hooktender, rigging slinger, choke setter, choke hold digger, chaser, donkey puncher, loading punk
High Lead Logging	High rigger
Log Transportation	River rat, skid greaser, bull whacker

These employees were paid wages that varied on how important or hazardous their job responsibilities were (see Table 5). In 1939, the average wage in the lumber industry of Washington, Oregon, and Idaho was \$0.77 an hour (Melton 1939:11). The starting minimum pay began at \$0.625 an hour (Melton 1939:11).

#### *Employees of the Camp*

There were several managers within a logging camp who were charged with making decisions on site to make sure that all logging operations moved smoothly. All employees in management positions were known as boss loggers (Prouty 1973:2). The general manager was the highest ranking management position in the forest. They often worked the longest hours and were responsible for ensuring sawmills received the desired quantity of lumber (Melton 1939: 95). The logging superintendent, casually known as the “bull of the woods,” was the general manager’s right-hand employee. The logging superintendent completed anything from cruising to deciding logging railroad placement (Melton 1939:95). Timber companies also hired men known as foresters who oversaw the planting and management of the forest. The last management position was the

Table 5. Average Wage of Lumbermen in Pacific Northwest, 1939<sup>1</sup>

Occupation	Per Day	Per Month
Cook—Head	—	\$151.50 - \$216.50 per month
Cook—Second	—	\$82.00 - \$130.00 per month
Baker	—	\$120.00 - \$125.00 per month
Flunkey	—	\$75.00 - \$86.25 per month
Dishwasher	—	\$67.50 - \$85.00 per month
Bedmaker	—	\$75.73 - \$85.26 per month
Bullcook	—	\$75.73 - \$85.00 per month
Waiter/Waitress	—	\$67.50 - \$85.00 per month
Drag Saw Man	\$5.20 - \$6.44 per day	—
Blacksmith	\$6.40 - \$7.70 per day	—
Blacksmith Helper	\$5.42 - \$6.00 per day	—
Welder	\$6.40 - \$7.70 per day	—
Bull Bucker	\$6.97 - \$9.47 per day	—
Bucker	\$5.76 - \$6.30 per day	—
Faller	\$6.32 - \$6.69 per day	—
Filer	\$6.64 - \$8.25 per day	—
Hook Tender	\$8.99 - \$10.08 per day	—
Rigging Slinger	\$6.81 - \$7.85 per day	—
Chaser	\$5.80 - \$6.30 per day	—
Choke Hole Digger	\$5.00 - \$6.30 per day	—
Choker Setter	\$5.72 - \$6.24 per day	—
Donkey Puncher	\$6.73 - \$7.76 per day	—
Loading Punk	\$6.73 - \$7.83 per day	—
High Rigger	\$8.50 - \$10.20 per day	—
Rigger—Second	\$6.32 - \$7.44 per day	—
Rigger—Third	\$6.32 - \$7.44 per day	—
Signal Man	\$4.91 - \$5.50 per day	—
Brush Burner	\$4.80 - \$5.01 per day	—
Brush Piler	\$4.80 - \$5.01 per day	—

<sup>1</sup>Melton 1939

logging engineer. The logging engineer oversaw logging layout plans, mapping, and road construction (Melton 1939: 95). Most management positions were filled by a man who was a graduate of a four-year college program or one who had many years of experience.

There were also employees that worked in the general office under the management personnel. Occupations within the general office were small in number and primarily consisted of those who assisted in clerical tasks. The timekeeper was responsible for ensuring employees were paid for the appropriate amount of hours worked (Melton 1939:96). The stenographer primarily assisted the logging superintendent in taking notes. The bookkeeper helped keep track of all camp expenses and also ordered fuel, food and other supplies needed to keep logging operations moving swiftly and smoothly (Kurelek 1974:3). These positions all worked in the office car or office building in later years.

To help make life at logging camps easier, there was a support staff who assisted with tasks such as food preparation and camp cleaning. Camp life was difficult on camp cooks, as they were expected to provide hearty meals to the lumbermen, who consumed approximately 8,000 calories a day (Williams 1976:144; University of Washington Libraries 2017a). To help alleviate some of this pressure, the camps employed a second cook whose first tasks of the day included stoking fires and filling the men's bins with fresh water to allow them to wash up before breakfast (SPTLC 1941; Williams 1976:142). The larger camps also employed bakers to help with the food demand.

In addition to the kitchen staff, the camp hired waiters, waitresses, and dishwashers (see Figure 14) to assist with food preparation and clean up (SPTLC 1941). In small camps, an employee known as the flunky completed a combination of tasks, including waiting tables, dish washing, and preparing lunches (Melton 1939:97). The flunky was responsible for packing, usually in a bucket, the lumberman lunches (Melton 1939:97), which consisted of “meat sandwiches, boiled eggs, fresh fruit, and a dessert of pie, cake or doughnuts” (University of Washington Libraries 2017a).

In larger camps, bedmakers were employed to assist in keeping the bunkhouses clean and orderly (SPTLC 1941). Other support staff positions included the drag saw man, whose job was to cut wood used for the cookhouse and bunkhouses, and the bull cook who assisted in splitting wood and completing general camp chores (Melton 1939:97). These positions worked exclusively at the camps, never venturing out into the woods. Even though they were not involved in the actual harvesting of timber, these positions were integral in ensuring logging operations functioned properly and efficiently.



Figure 14. Photograph of mess hall crew at unknown SPTLC camp, ca. 1938 (C. Kinsey 2017c).

The following are positions based at camps, but whose tasks directly related to logging operations. One such position was the camp blacksmith, and possibly a blacksmith helper depending on the size of the camp. The camp blacksmith was extremely vital to early logging endeavors because they completed blacksmithing tasks, as well as repaired and reshaped metal objects and tools used in both the logging railroad and logging machinery (Melton 1939:97; Pentilla and Bertoch 2011:18). A camp

welder was employed in larger camps to assist with machinery repair; however, in smaller camps, welding tasks would be completed by the camp blacksmith (Melton 1939:98). The saw filers were also integral in the logging process as they were in charge of sharpening all the saws before the start of the next work day (Melton 1939:99). It was commonly said that “a tidy work area and properly sharpened tools are half the job done already” (Kurelek 1974:23). Sharp saws were extremely important because a sharp blade meant more wood could be cut cleaner with less effort (Kurelek 1974:23). Although the work of these employees seems simple, they provided support integral in cutting, felling, and yarding timber (Shull 1926:3).

### *Employees of the Forest*

Those tasked with completing logging operations, known as lumbermen, consisted of a variety of men whose jobs changed depending on the type of logging technology used. Each lumberman had a specialized job and had to ensure their often-dangerous task was performed quickly so that the rest of the crew was not held up (Morgan 1982:68). However, no matter what logging technology was in use, the logging process continually relied on the men who faced the daunting task of felling trees. The men involved in this task were known as cruisers, fallers, and buckers.

The cruiser, also known as the estimator or timber rider, was an expert lumberman who surveyed tree stands and estimated volumes of marketable timber by walking over the tracts of lands (Melton 1939:96; Stier 1995:11). The cruiser estimated the volume by sampling trees in an area with a scale and various hand measuring devices

(Melton 1939:96). It was the cruiser who decided what stands would be logged based on market demand.

The next step in logging was the felling of the trees (see Figure 15). This job was completed by extremely skilled men, known as fallers, who had to ensure the tree would fall in a specific direction without shattering the log (Amato 1992:56, Morgan 1982:68; Stier 1995:31). The fallers usually worked in pairs and, with the use of an axe, would first cut a notch into one side of the tree to help guide the direction of the tree when falling (Melton 1939:40). Most trees were notched a few feet up from the bottom of the tree except for the trees that were in the path of a potential railroad line (Kurelek 1974:13). Two springboards, made from maple, were then notched into the timber and stood on by the fallers while they cut trees down (Engstrom 1956:22). The springboard, another invention made specifically for the West Coast, was necessary to get above the flare at the base of the tree (Williams 1976:92). The fallers, working together, then sawed toward the notch from the opposite side of the tree, driving wedges behind their saw cuts, until the wedges would eventually help topple the tree in the direction of the notch (Melton 1939:40). The fallers warned other lumbermen of falling trees with a booming shout of “TIMBER!” (Melton 1939:41).

The second step in the logging process was to get the logs ready for transportation. Before the timber could be cut into standard lengths, the felled timber had to have all limbs cut from the tree, known as bucking. After all the limbs were removed, an employee known as the brush piler would collect all the limbs into piles, which were then burned by the brush burners (Melton 1939:11).





Figure 15. Photograph of SPTLC employees, from Camp #3, cutting down a 10-foot-wide fir tree near Orting, ca. 1926. Note the use of springboards and double-headed axes (C. Kinsey 2017b).

Next, a man known as a bull buckler or a buckler foreman came around to measure and mark where the buckler should cut the timber into manageable portions, easier for transportation. A buckler, who usually completed this task alone, cut the timber with the help of a 7 ½ or 8 foot saw with one handle removed, plus an axe, wedges, and an old

whiskey bottle filled with kerosene that was used to lubricate the saw and dissolve built-up pitch (Johnson 2007:84; Melton 1939:41-98). In addition to the buckler, there was also a windfall buckler, usually the lowest paid member in the cutting crew, who was tasked with bucking blow downs to get them out of the way of timber that was being felled purposefully (Williams 1976:145). This task was one of the most dangerous jobs as it was nearly impossible to tell which way the timber would kick (Williams 1976:145). This job was usually completed alone with the worst saws in the saw rack (Engstrom 1956:8). After this step, the logs were ready for movement.

In the early days of the Northwest timber industry, logs were moved to rivers to float the logs to the mills. To get the logs to the riverbank, and later to railroads, they used a skidroad. The skidroad, a sort of track, was arguably one of the most significant contributions to logging technology. The skidroad was constructed by clearing a path in the forest and placing logs at even intervals across this path (Holbrook 1938:164). The skid greaser and the bull whacker worked on the skidroad and were in charge of transporting logs. The skid greaser was usually a teenage boy whose job was to prevent fires on the skid road by spreading fish oil, sheep fat, bear grease, butter, or water on the skid row to prevent friction (Stier 1995:28; William 1976:123). The bull whacker, known for his booming voice and profanities, prodded the oxen with sticks and their caulked boots to keep the logs moving out of the forest (Amato 1992:29, Holbrook 1938:165). The bullwhacker was one of the most important employees in a timber company; young boys grew up wanting to be them, and more than one timber baron got his start in the business as one. They were often legends in the forest and were

compensated quite handsomely, making three times more than the average lumberman (Holbrook 1938:165).

Once at the riverbank, logs were floated to mills. A fearless, nimble man, commonly referred to as a river rat, rode logs down the river to clear any blockages while the timber floated down in what is known as a river drive (Amato 1992:118). A river rat could float upwards of 10 million board feet a day, anywhere from 3-4 miles downstream (Amato 1992:118). River rats relied heavily on their caulked, or steel-spiked, boots to help keep their balance as they often dislodged the “king” log that was the cause of a blockage (Amato 1992:20).

With the transition from floating logs down rivers to transporting them via train, designated landings were set up to sort and load logs. Movement to the landing is called yarding. The way the timber was moved to the landing depended on the type of logging technology available. Regardless of the type of technology, yarding always relied heavily on the yarding crew.

The high lead process, initially introduced after 1910, was one of the biggest advancements in logging because it could be used on all types of topography (Wright 2016). The high lead process doubled logging productivity, but also significantly increased the number of accidents (Carroll 1995:36). The high lead process (Figure 16) employs the use of a powerful yarding engine known as the donkey engine. In order to begin the high lead process, a spar tree must first be identified. A spar tree, usually 100 to 150 feet tall and 3 to 4 feet in diameter at the base, is located on the landing and acts as the center of the network of cables (Wright 2016). The spar tree was first topped, where

the top section of the tree was cut off, by a lumbermen known as a high rigger, who would climb the tree with the help of caulks (steel-spiked boots) and a metal wire, preferred over rope which could be accidentally cut (Johnson 2007:22). The high rigger, commonly referred to as a squirrel man or steeplejack of the woods, was one of the highest paid workers. After the spar tree was topped, it was then outfitted with a number of supporting guy wires, a variety of blocks, and working lines. These guy wires ensured the spar-tree would be supported when moving heavy loads (Melton 1939:43; Wright 2016). Once the cables were secured, a log was attached and lifted partially or entirely off the ground and winched up by the steam donkey to the landing, where it would then be transported to the sawmills for processing (Melton 1939 43).

The high lead yarding crew (see Figure 17) consisted of six different positions, with the crew size depending on the size of the logging operation. The first position was the hooktender, or the yarder boss, who planned and supervised the yarding crew. He also directed where the yarding lines should be positioned when hauling the logs to the landing (Melton 1939:100). A rigging slinger was second to the hooktender and focused directly on the tasks of the choke setter by guiding the choke setter on how and where to position the chokers (Melton 1939:100). A choker is “a length of wire rope, with [a] hook on one end, [and an] eye or ring on the other to which skidding rigging and line are attached” to help haul logs up to the landing (Melton 1939:100).



Figure 16. Undated photograph of high lead logging with steam donkey in Washington state (D. Kinsey 2017b).



Figure 17. Undated photograph of SPTLC yarding crew and steam donkey engine beside a pile of logs (C. Kinsey 2017d).

The choke setter (see Figure 18) was responsible for securing chokers around the logs before attaching them to the skidding or yarding equipment (Melton 1939:157). Before the choke could be set, a choke hole digger, also known as the gopher man, dug holes under the logs to help slide the choker underneath (Melton 1939:100). Once attached, the logs were brought to the landing and unhooked by a lumberman known as a chaser (Melton 1939:100; Stier 1995:30;). The chaser also replaced any broken chokers and sent other equipment needed back down to the yarding crew (Melton 1939: 100).



Figure 18. Undated photograph of SPTLC choke setters (C. Kinsey 2017e).

In the early 1900s, yarding was completed with a piece of machinery known as a donkey engine, a steam powered engine used to drag logs with the help of one or two drums to winding or unwinding cables (Melton 1939:157). The lumbermen who operated the donkey engine were referred to as donkey punchers and loading punks (Melton 1939:103). Donkey engines were a source of great concern as they were a major cause of injury and death; they were known to catch fire or blow up without warning (Melton 1939:157). The donkey engines were initially powered by steam but eventually switched to gas or diesel in the 1930s (Holbrook1938:178-179). The donkey puncher was responsible for not only running the machine but also making minor repairs to the

engine (Melton 1939:100). The loading punk handled the levers and controls of the cables to winch logs from the ground and onto cars or trucks (Melton 1939:100). Once donkey engines began to be used, river rats, skid greasers, and bull whackers were no longer needed for log transport.

After the World Wars, the lumbermen turned to the use of heavy machinery, including the use of tractors. This new technology resulted in job openings for heavy machinery operators. These tractor operators dragged bucked logs, attached to the tractor with chains, with a logging accessory known as a fair-lead arch (Melton 1939:42; Wright 2016). Once at the fair-lead arch, the choked end of the log was elevated and then mounted on the rear of the tractor (Melton 1939:42). After this, the tractor hauled the timber to the landing. This practice could not be used on steep, rocky terrain, which has continued to use a variation on the high lead process.

### **The Daily Routine and Life of a Lumberman**

“Arrived at the shanty, with wet and cold feet,  
They off with their boots and packs, for supper they must eat;  
The cook he halloos ‘Supper!’ the all get up and go,  
It’s not the style of a shanty boy to miss his hash, you know.

The boots, the packs, the rubbers, are all thrown to one side.

The mitts, the socks, the rags are all hung up and dried;  
At nine o’clock or thereabouts, into their bunks they crawl,



To sleep away the few short hours until the morning call.”

- The Lumber Camp Song (Doerflinger 1972:210-211)

The daily life of Pacific Northwest lumbermen at about the time of SPTLC Camp #5 (ca. 1930-50) has been described in several contemporary reports and retrospective biographies (e.g., Melton 1939, Kurelek 1974, Stier 1995, Van Syckle 1980). This section attempts to provide a view of the life and daily routine of a lumberman at the time of Camp #5.

Lumbermen and other company employees worked long hours, typically 10 to 12 hours a day, Monday through Saturday (Morgan 1982:68; University of Washington Libraries 2017a). Logging was a year-round job with few instances of cancellations due to weather, except for pine logging (*Pinus* sp.) which was completed at higher altitudes where snowfall was inevitable. To help ensure a steady income during winter, pine loggers would turn to what is known as “cold decking,” the practice of stacking up logs to be used when logging operations were shut down due to snowfall (Melton 1939:110).

Employees were usually woken by the sound of a flunky banging on a triangle, and after dressing, they would head to the cookhouse for breakfast, see Figure 19 (Kurelek 1974:5; Van Syckle 1980:54). Most meals were taken in complete silence as eating was reserved for eating only; if you missed a meal or overslept, you would have to wait for the next meal (Kurelek 1974:5; Van Syckle 1980:55). Before heading out to the forest for the day, the men would grab their lunches from the flunkies. After work, the men would return to camp and wash up before heading to dinner. Before the installation

of washrooms at camps men dipped old rusted wash pans into water barrels kept under the roofs of bunkhouses (Engstrom 1956:25). Following dinner, most men would return to the bunkhouse where they would hang up any damp clothing and then turn in early (Van Syckle 1980:54). This was not the case for all of the men. On the far end of a bunkhouse, you could find men circled around the stove, playing cribbage until the early hours (Van Syckle 1980:54).



Figure 19. Undated photograph of SPTLC camp mess hall labeled “Nooksack Camp” (D. Kinsey 2017a).

In a survey of ca. 1930 logging camps in the Northwest, the following items were regularly on the menu: “corned beef, ham, bacon, pork, roast beef, chops, steaks, hamburger, chicken, oysters, cold cuts, potatoes, barley, macaroni, boiled oats, sauerkraut, fresh and canned fruits, berries, jellies and jams, pickles, carrots, turnips, biscuits, breads, pies, cakes, doughnuts, puddings, custards, condensed or fresh milk, coffee and tea” (Williams 1976:143-144). A statistician once calculated that a 1930s logging camp consisting of 1,000 men could consume “1000 pounds of meat, 200 pounds of smoked meat, 900 pounds of flour, 600 pounds of sugar, 190 pounds of butter, and 240 eggs” in one day (Amato 1992:34). Camp cooks began their days at 4:00 AM in order to have breakfast prepared by 6:00 AM (Melton 1939:97; University of Washington Libraries 2017a). When meals were not to their liking, lumbermen would often move to another camp that was known for better meals. However, before leaving, they would often spread the word that the camp cook was a “gut robber” and would nail the offensive food to the outside of the cookhouse (Williams 1976:146).

Lumbermen were extremely proud of their clothing and not only wanted the best clothing around, but spent hours mending their clothing (Amato 1992:10; Van Syckle 1980:56). It was not unheard of for men to spend their paychecks on new clothing with specific requirements on material and stitches (Van Syckle 1980:56). Thick clothing, especially a heavy shirt, was preferred year-round to protect oneself from scratches and insects (Kurelek 1974:13). To help cope with the wet weather that is inevitable in the Pacific Northwest, men took to wearing “tin” pants, or waterproof pants made of a thick, canvas material (Van Syckle 1980:54). All lumberman’s pants, usually with the familiar

round outline of chewing tobacco tin, were worn just to the top of their work boots in order to keep them from getting caught while working (Kurelek 1974:25; Van Syckle 1980:56). Those lumberman who chose to wear overalls while working were affectionately referred to as “shepherders” (Van Syckle 1980:59). Lumbermen also wore several pairs of socks during the winter months and only one pair during the summer (Kurelek 1974:25). At the end of the day their clothes were hung on lines found throughout the bunkhouses to dry (Van Syckle 1980:54).

Sundays were primarily reserved for laundry, although some men were also known to go hunting (Williams 1976:129). In the 1940s, some camps were lucky enough to have their laundry sent out to a laundry service, but in cases where lumbermen did not want to pay for laundry, it was done at camp. Every man did their own laundry; as the saying in the woods went, “six days shalt thou labor, and on the seventh wash thy dirty socks” (Kurelek 1974:25; Van Syckle 1980:76). However, not every man washed his clothes, which contributed to the typical bunkhouse aroma of tobacco juice, saw oil, pitch, and pungent socks (Van Syckle 1980: 77).

Aside from their work clothes, most lumbermen did own at least one dress suit. It was not uncommon for a tailor to visit camp the month before Christmas with two cases: one filled with sample suits and another with whiskey. After his perspective clients were friendlier, he would measure them for suits (Van Syckle 1980:56). These suits would be worn on the men’s two annual trips to town, the first trip occurring on Christmas Day and the second on the Fourth of July (Van Syckle 1980:56).

Apart from the bunkhouse, the only other place for men to convene was the dining hall. On Saturday nights, men could be found playing intense poker games, gambling away their paycheck. If the camp was lucky, they might have a “shindig” in the dining hall where lumbermen who were musically inclined would grace them all with a song or two on the fiddle or harmonica while the other men danced (Van Syckle 1980:55). Men would dance the parts of both the women and the men with a handkerchief tied around their arms to signify if they were playing the part of a woman (Van Syckle 1980:55). Those who did not participate in the shindig would often sit around and share stories of women and past logging experiences.

Depending on the proximity of camp to towns, lumbermen would travel to the nearest town’s bar. Lumbermen had two outlooks on life, the first being: “work hard, save up, then go to town and, in a few days let the women and taverns clean out your pockets,” and the second group of lumbermen would save their money to invest in their families (Kurelek 1974: 27; Stier 1995:106). When they did venture into town, the men always made sure to let the generous saloon keepers know they were heading back to the woods as they would customarily send a bottle or two of whiskey back “for the boys” (Van Syckle 1980:55). At Camp #5, though, this was not likely as it is about 10 miles to the nearest saloon.

### **Injuries in the Forests**

Injuries are all too common in the forests of the Pacific Northwest, and unfortunately, lumbermen have faced these perils of the forest since the beginning of the

timber industry. However, these dangers turned regular men into legends of the forest. Logging companies of this period were not known to employ any medical staff at camps, and as logging camps were miles away from any hospitals or medical attention, any seriously injured lumbermen often took their last breathes in the forest. In fact, hospital records from both the Providence Hospital in Seattle and St. Peter's Hospital in Olympia, two of the closest hospitals, have very few records of lumbermen making it out of the woods and into surgery in the 1930s and 1940s (Prouty 1973). Doctor Shields, a notable Pacific Northwest doctor who occasionally published articles in the industry journal *The Timberman*, believed that logging camps should not be more than 35-50 miles away from a doctor or surgeon (Prouty 1985:88). In 1911, the lumber industry led Washington state in most fatal accidents, accounting for 157 of the 279 fatalities that year (Prouty 1985:143)

Most injuries occurred during the felling of timber. If the crown of a tree were to get caught in the branches of neighboring trees, the trunk might not fall the way desired by the fallers. The tree could then kick back before the fallers could get out of the way (Williams 1976:145). One such accident occurred in Whatcom County, where a tree kicked back and struck a man, Frank Bloomquist, with such force that his body was cut in half (Prouty 1985:91). Accidents like these were unfortunately inevitable, no matter the amount of experience a lumberman had under his belt.

In 1940, all lumbermen working for SPTLC were insured under the Aetna Insurance Company (Whitaker 1940b). There were a number of accidents that occurred at St. Paul and Tacoma logging camps, including an accident at Camp #3 where a

lumberman, Claude Parrish, slipped off a springboard and cut his arm in 1923 (Purse 1923). Although most accidents were not serious and required minimal medical attention, some accidents were fatal. In one instance in 1930, Frank Hughes was riding a speeder (see Figure 20), a railcar used for quick transportation on the railroad, to the company office to collect documents in order to get approved for paid leave through his insurance. While on his way to the office, he was flung from the speeder and hit his head on a rock, killing him instantly (Griggs 1930).

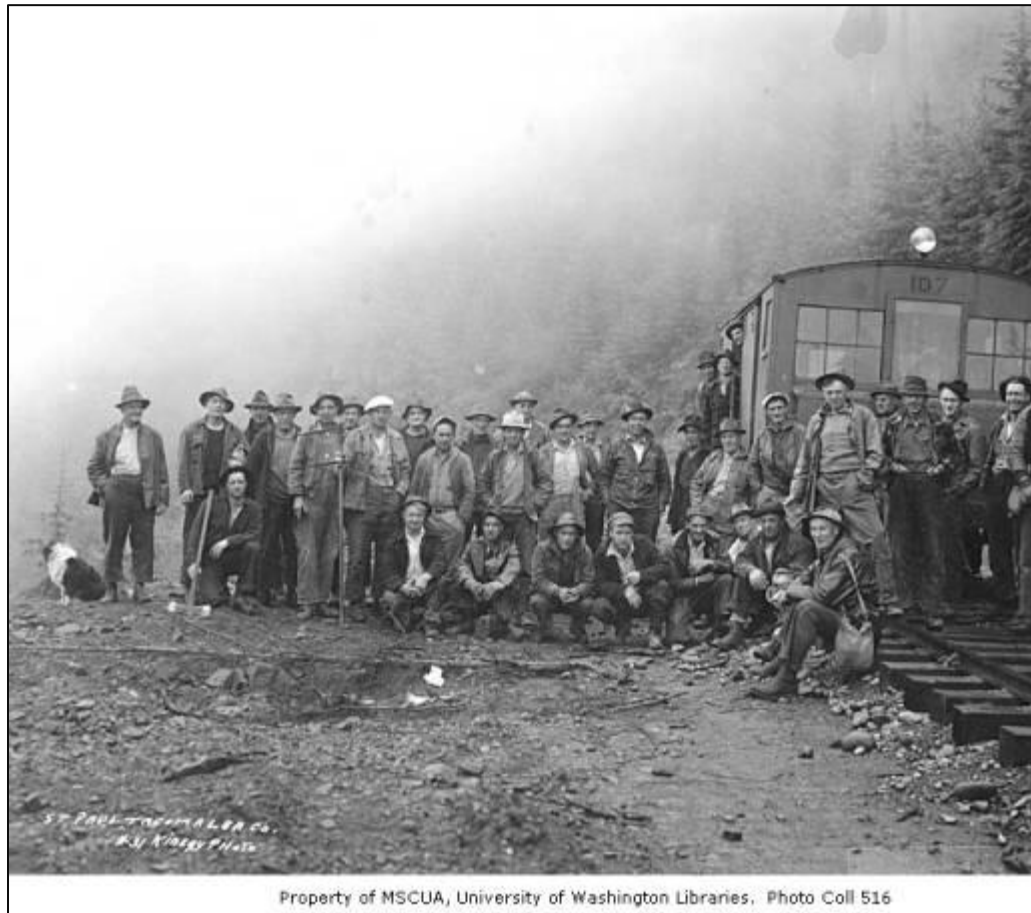


Figure 20. Photograph of SPTLC logging crew with a speeder near Camp #6, ca. 1932 (C. Kinsey 2017g).

To help minimize the frequency and severity of injuries, the men always looked out for each other's safety in the same way that miners looked out for each other (Williams 1976:144). However, it was inevitable, that for some, their last breaths would be in the forest. The men who never made it out were said to have moved on to "Section 37," a place "where there was no brush, the ground was level, the rigging small, with a good place to rest and a cook whose specialty was apple pie with lots of cinnamon" (Van Syckle 1980:63). In other words, Section 37 was a lumberman's paradise.



## CHAPTER V:

### CAMP #5

Chapter V discussed the general history of logging camps and camp organizations in the Pacific Northwest. This chapter focuses entirely upon the archaeological remnants and history of SPTLC Camp #5. Camp #5 is located in Pierce County, southeast of Olympia in southwestern Washington (Figure 21). The precise location of the site is suppressed here to protect confidentiality in this publicly-available thesis document. Back during its time of use, Camp #5 was located on a spur off Branch 2 of the SPTLC and Tacoma Company railroad main line. Today, Camp #5 lies just south of a modern gravel road or mainline known today as the 2 Road. In the Kapowsin Timberlands, the primary road is gravel and commonly referred to as the mainline. The closest water source, the Puyallup River, lies less than a quarter of a mile northeast of the site. To begin this chapter and before providing the archaeological results, I will summarize what is known of the camp from historic company documents.

#### **Camp Organization & Camp History**

This section focuses entirely on the SPTLC Camp #5 with the majority of information originating from SPTLC company records. These records included a 1940 inventory of Camp #5 materials (SPTLC 1940), a SPTLC Seniority List of Logging Employees (SPTLC 1941), and letters from company employees and others regarding Camp #5 (Western Operators Association 1934; Whitaker 1940a, 1940b, 1941; Zoeffel

1943). Helpful historic maps include a 1937 topographic map (United States Geological Survey [USGS] 1937), and the forestry map by Stiers (1946).

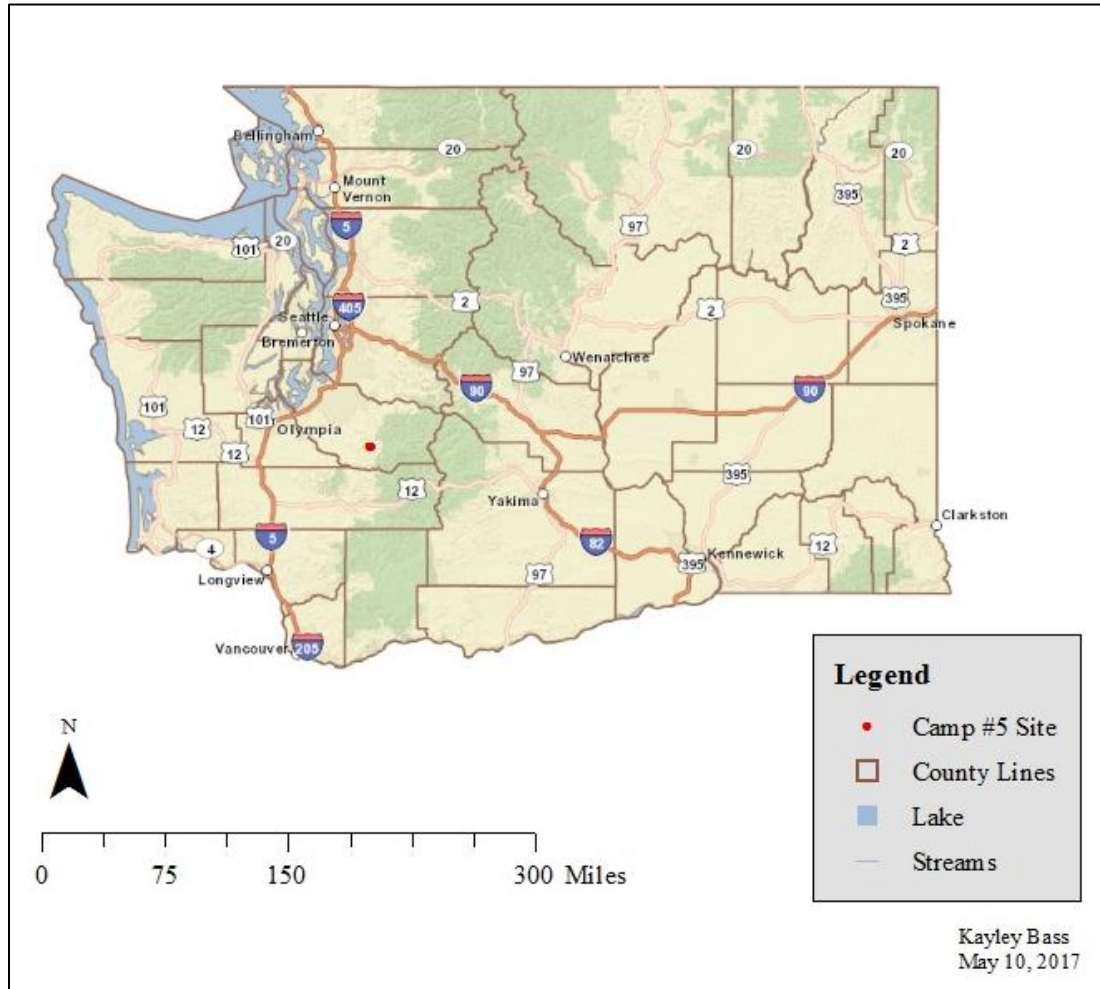


Figure 21. Location of Camp #5 site within Washington State.

The organization of Camp #5 changed throughout the years as it was in use for at least 10 years. Stier (1947) reported its active use as a logging camp starting February 1934 and continuing through at least 1947. Initial logging operations most likely began in the areas directly surrounding the camp before extending further into the timberlands.

Although there are no early written records of Camp #5, it is likely that it resembled other SPTLC camps in the 1930s, consisting in part of railroad cars. In 1930, SPTLC Camp #2, also located on the Kapowsin Timberlands, consisted of an office car, stone car, cook car, two dining cars, filing car, bath and heating car, and six bunk cars (SPTLC 1930). By December 31, 1940, Camp #5 was a more permanent settlement with at least 28 buildings, all measuring 14' x 40' except for the 12' x 40' refrigerating sled (SPTLC 1940). Presumably these buildings were in standardized sizes to accommodate their loading on railroad flatbed cars 40-50 feet long and 10 feet wide (American-Rails.com 2017). Buildings at Camp #5 in 1940 included 23 bunkhouses, 2 washrooms, a storage building, refrigerating building, and filing shed (SPTLC 1940). In 1943, Camp #5 consisted of at least a recreation hall, cook house, meat house, washroom, and storage room (Zoeffel 1943).

A fire destroyed most of Camp #5 on July 1, 1940 (Allison 1940). This fire, started in the power plant presumably from a backfire or short circuit, completely wiped out Camp #5 except for the oil house and five bunkhouses (Allison 1940). This resulted in the camp being in a rebuilding stage, so that by the December 31, 1940 inventory, all but one of the 28 buildings at the camp were noted as being brand new (SPTLC 1940). This fire not only devastated the camp, but also damaged 6,034,500 board feet of surrounding timber (Holt 1940).

Several maps provide information on the SPTLC railroad system on the Kapowsin Timberlands, including the area around Camp #5, and inform on these important features near the camp. In 1928, SPTLC railroads as depicted on the statewide

map (Office of the Secretary of State 2017), extend approximately six miles east of Lake Kapowsin along the south banks of the Puyallup River, but not as far as Camp #5 (see Figure 11). On a USGS (1937) topographic map, with railroad locations updated to include railroad additions from 1934-1937, the lumber railroads extend further east, past Camp #5 and crossing the river north about a mile (see Figure 22). It also shows a short spur near camp, and an unimproved road from north of the river through the approximate camp location and continuing south about 10 miles to Ashford. This road also appears to be the “graded trail” on the 1883 GLO plat map (Bureau of Land Management 2017c). On Stier’s (1946) map, the railroad system extends several miles north and east of Camp #5 (see Figure 8). This map shows a railroad wye turnaround just south of the camp, and a bridge across the river about ½ mile east (see Figure 23).

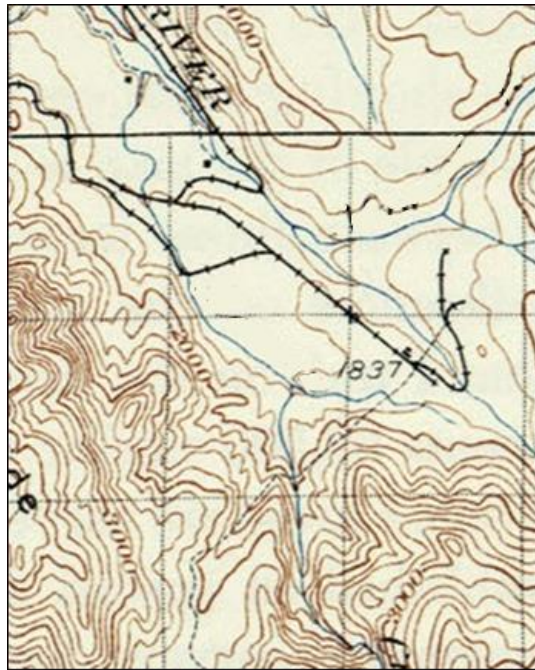


Figure 22. Closeup of portion of USGS topographic map revised ca. 1934-1937, indicating extent of railroad at that time. Camp #5 is located near the “1837” elevation marker. Modified from USGS (1937). Please note this figure has been altered in order to protect the exact location of the site (the section numbers and river name have been removed).

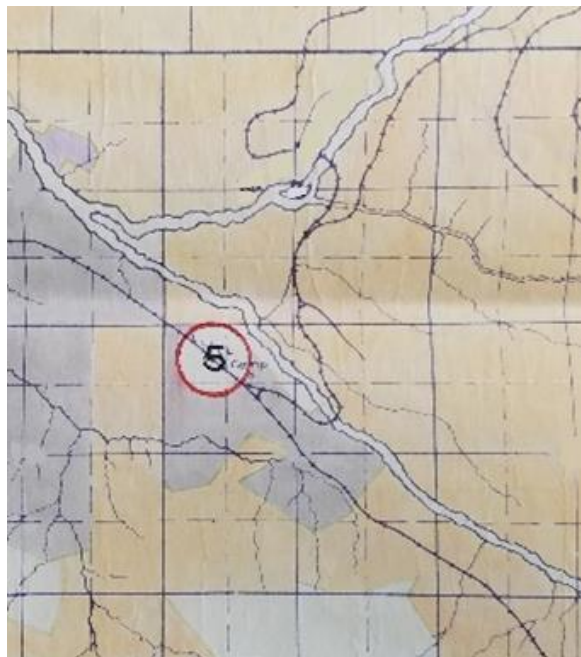


Figure 23. Closeup detail of the Stier (1946) map, showing the location of Camp #5 and surrounding railroad features. Please note this figure has been altered in order to protect the exact location of the site (the section numbers and river name have been removed).

According to the December 1940 inventory sheets I was able to locate in the company records (SPTLC 1940), the camp had a wide variety of items (see Table 6, Appendix C). The office building wouldn't have contained too many items; aside from paperwork there were steel filing cabinets, typewriters, an Addressograph, and a Monroe calculator. An Addressograph was an address labeler (Early Office Museum 2016) and was undoubtedly used for the company's numerous correspondences. The Monroe calculator (see Figure 24) was a mechanical adding-calculator (Historical Memorabilia Collectibles 2017) that was presumably used for tasks such as calculating the employee's hours worked.

Table 6. Summary of December 1940 Inventory from Camp #5 <sup>1</sup>

Department	Summary of Items
Wire Rope	2 pages: Including feet lengths of various types of wire ropes and guy lines from ½ to 2” in diameter, listing percentages from 10 to 100% for unknown purpose
Water Pipe	1 page: Including 17,000 feet of 2” galvanized water pipe to camp, and 5,500 feet of 1.5” “black” water pipe connecting to wood water tanks
Fuel Oil Station	1 page: Including four large steel tanks ranging from 6 x 5 x 10 feet to 4 x 26 feet
Operating Supplies	2 pages: Logging supplies such as chokers, straps, shackles, hooks, tongs, and tree irons
Miscellaneous Tools	2 pages: Including hand tools (e.g., 31 square point shovels, 18 track wrenches, 34 falling axes, 24 picks, 18 mauls, 34 falling saws, 80 bucking saws), power and pneumatic tools (e.g., Cleveland Pneumatic air hammer model H. 113/4 4, 2 electric exploders, 2 sets power tools), and miscellaneous materials (e.g., Alemite grease gun model #6522, 3 push cars, five gallons cans, 4,500 feet of electric whistle wire, and 12 barroom chairs)
Office Equipment	1 page: Including typewriters (one Underwood #10, one Remington #RK 70902), calculators (one Monroe calculator, one Borroughs adding machine), one Addressograph, one all steel filing cabinet
Cookhouse	3 pages: Including furniture (e.g., 16 tables, 32 benches), tableware (e.g., 170 table knives, 166 table forks, 252 table spoons, 142 plates, 179 cups), and cooking supplies (e.g., 22 coffee pots, 4 fry pans, 8 large cake pans, 8 garbage cans, and 17 cookie sheets)
Logging Blocks	2 pages: Including two Young blocks #1240, three young heel tackle blocks (sets), two Lamb loading jacks, one Berger tail tree jack, and three set guy line tightening blocks
Camp Equipment	2 pages: Including six Arctic cast iron heaters, 131 iron cots, 140 mattresses, 455 blankets, 370 sheets, 10 sanitary toilets, 16 shower heads, 17 #24 stoves, 40 12” faucets, and 3 Vaughan drag saw blades
Fire Fighting Equipment	1 page: Including 24 galvanized pails, 4,500 feet of 1.5” cotton hose, 2 smoke masks, 19 swamping axes, and 12 knapsack fire pumps
Surveying Equipment	1 page: Including one 40” x 60” drafting table, one pencil sharpener, five plumb bobs 6 oz., one Chicago steel tape 200’, and one roll profile paper
Buildings	1 page: Including one sills washroom 14 x 40 feet, one sled refrigerating 12 x 22 feet, one sills storage 14 x 40 feet, seven 14 x 40’ bunkhouses (new), and one 14 x 40 feet filing shed (new)

<sup>1</sup>This inventory (SPTLC 1940) was 20 pages long, was labelled Inventory at the top, listed Camp Five as the location, and had headings listed as departments, as noted.

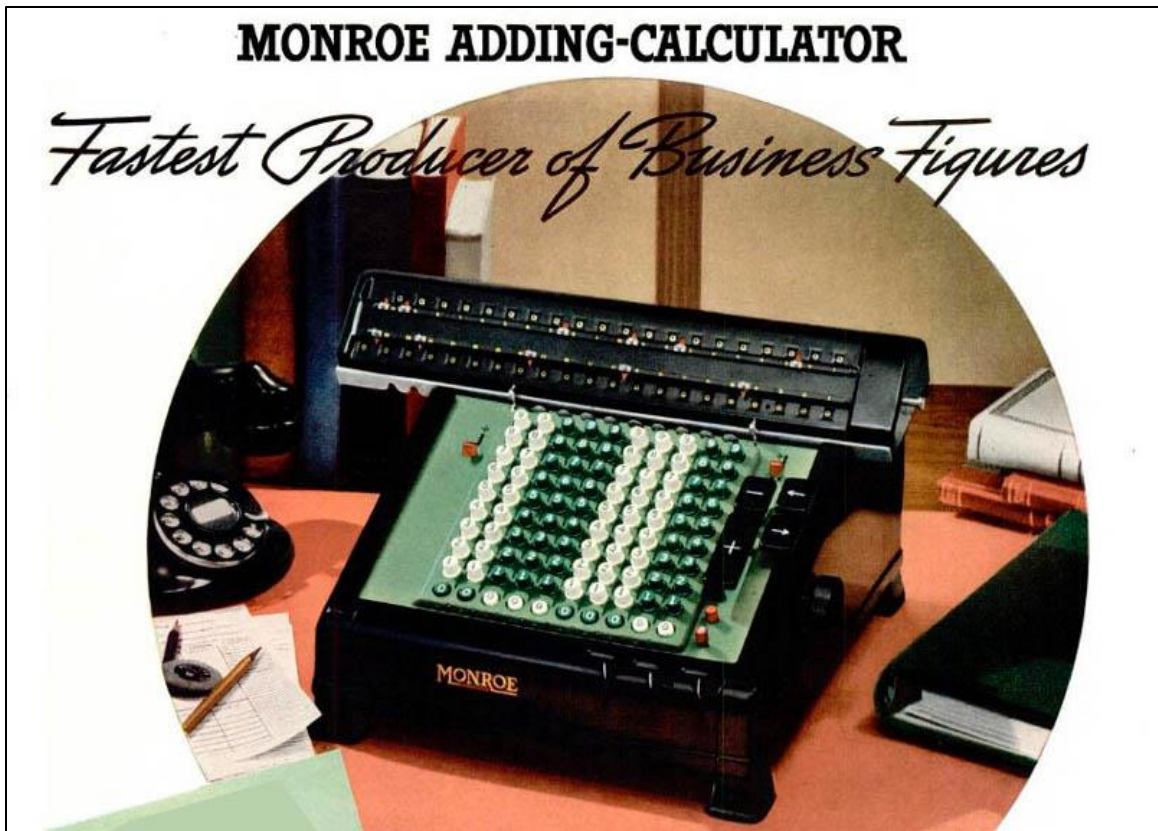


Figure 24. Monroe Adding-Calculator advertisement reportedly from *Life* magazine in 1937 (Dark Roasted Blend 2017). This is an example of the calculator most likely found at Camp #5

The cook and dining halls contained items such as ceramics including cups, saucers, plates, soup bowls, and utensils. Other cookhouse items included cookie sheets, bread pans, angel food cake tins, large bread pans, and a Lang Cook stove. It is not specified in the 1940 inventory whether these Lang Cook stoves were wood fueled stoves, but it could be assumed because the camp did employ a bull cook who cut firewood for use in the cookhouse (Melton 1939:97). Dining hall items included tables, benches, and garbage cans. Possible operating supplies included 1" rubber hose, wood planks, and Clausen Bull Chokers. Miscellaneous tools included mauls such as spike



mauls and splitting mauls, various types of axes and saws, and wedges used for bucking and falling.

The 1940 inventory also lists camp equipment such as iron cots, mattresses, blankets and sheets, and sanitary toilets. There were also a high quantity wires in both 1", 1 1/8", and 2" diameters and 2" galvanized water pipe. The camp also kept firefighting equipment stocked as well. In addition to camp items there were, of course, items needed for logging operations. These items include chains, rigging, and tongs used for loading lumber. There were also a variety of tools used for felling timber including thirty-four falling axes, thirty-four bucking axes, eighteen mauls, eighty-seven bucking wedges, thirty-four falling saws, and eighty bucking saws (SPTLC 1940). There were also items listed under the Logging Blocks department that consisted of equipment needed for high-lead logging operations which means Camp #5 was using this logging technology in 1940. Also, the items listed in the Operating Supplies department are made up of equipment needed to complete yarding operations.

To house all the lumbermen and camp personnel Camp #5 in 1940 was outfitted with twenty-three bunkhouses each furnished with iron cots, mattresses, blankets, sheets, and pillow slips (SPTLC 1940). Although the housing and bedding supplies were provided, the men were presumably charged monthly for room and board, like they were in Camp #5 in 1935 (SPTLC 1935). The men also received wood deliveries, deducted from their pay, possibly used to heat the bunkhouses (Whitaker 1940a).

At Camp #5 in 1940, there was a washroom where the men could maintain their personal hygiene. The washroom contained 10 sanitary toilets, 40 faucets, and 16 shower

heads (SPTLC 1940). By 1941, and probably earlier, the SPTLC had set up laundry services for their employees which occurred once a week. The laundry was sent to Puyallup Laundry with the laundry fee being paid for by SPTLC and then deducted from the employee's next paycheck (Whitaker 1941). If an employee did /not want to pay for laundry services they would likely wash their laundry at camp.

### **Field Findings**

The pedestrian survey of this site was conducted by the author over a span of two days, March 16-17, 2017. At the time of the pedestrian survey, the study area was covered by a dense canopy Douglas-fir in addition to an understory moderately covered with vegetation and duff. The understory was composed of ferns, salal, vine maple, and mixed grasses. Most of the site is located in an open area surrounded by quaking aspen and Douglas-fir (Figure 25), although the site extended into the tress on all sides. The less dense understory cover in the open area provided relatively good ground surface visibility.

The Camp #5 site was located approximately 40 m west of an unnamed spur off of the 2 Road mainline gravel road (Figure 26). Within the site boundaries were five stumps, none of which had springboard holes. All of the living trees on site were fairly young (less than a foot diameter at breast height) and none exhibited cultural modification. No features were observed, either built structures or depressions. The site consists solely of a scatter of surface artifacts, although some were found partially buried, so more of the site could exist below surface.



Figure 25. Camp #5 site overview, facing west. Photograph by the author on March 17, 2017.



Figure 26. Location of Camp #5 site on aerial photograph of Kapowsin Timberlands. Modified from EarthExplorer (2017).

Camp #5 site is a surface scatter approximately 80 m by 71 m (262 ft by 233 ft) in size, with over 600 artifacts spread over the site area and within five artifact concentrations (Figure 27). A total of 635 artifacts were recorded, made of four materials: glass, ceramic, metal, and brick (Table 7). All of the metal cans and all of the bricks were found in one of the artifact concentrations.

Table 7. Camp #5 Site Artifact Summary

Material	Description	Count
Glass	Bottle or jar fragments	188
Glass	Glass bottles with maker's mark	5
Ceramics	Ceramic fragments without maker's mark	144
Ceramics	Ceramics with maker's mark	13
Metal	Miscellaneous metal fragments	71
Metal	Tin cans	184
Bricks	Bricks	<u>30</u>
	Artifact Total	635

There were 157 ceramics recorded, including 11 diagnostic artifacts, composing about a third of the artifacts found at the site. During my inventory, I sorted the ceramics at the site into five classifications of bowls, cups, plates, serving plates, and unknown pieces. The serving plates were differentiated from regular plates as fragments with a deeper well for where the food is placed than a traditional dining plate (Conroy 1998:326). The ceramics were all whitewares with chalky white paste and plain white glaze, except for one diagnostic which had some green glaze. None were complete. Ceramics are summarized in Table 8.

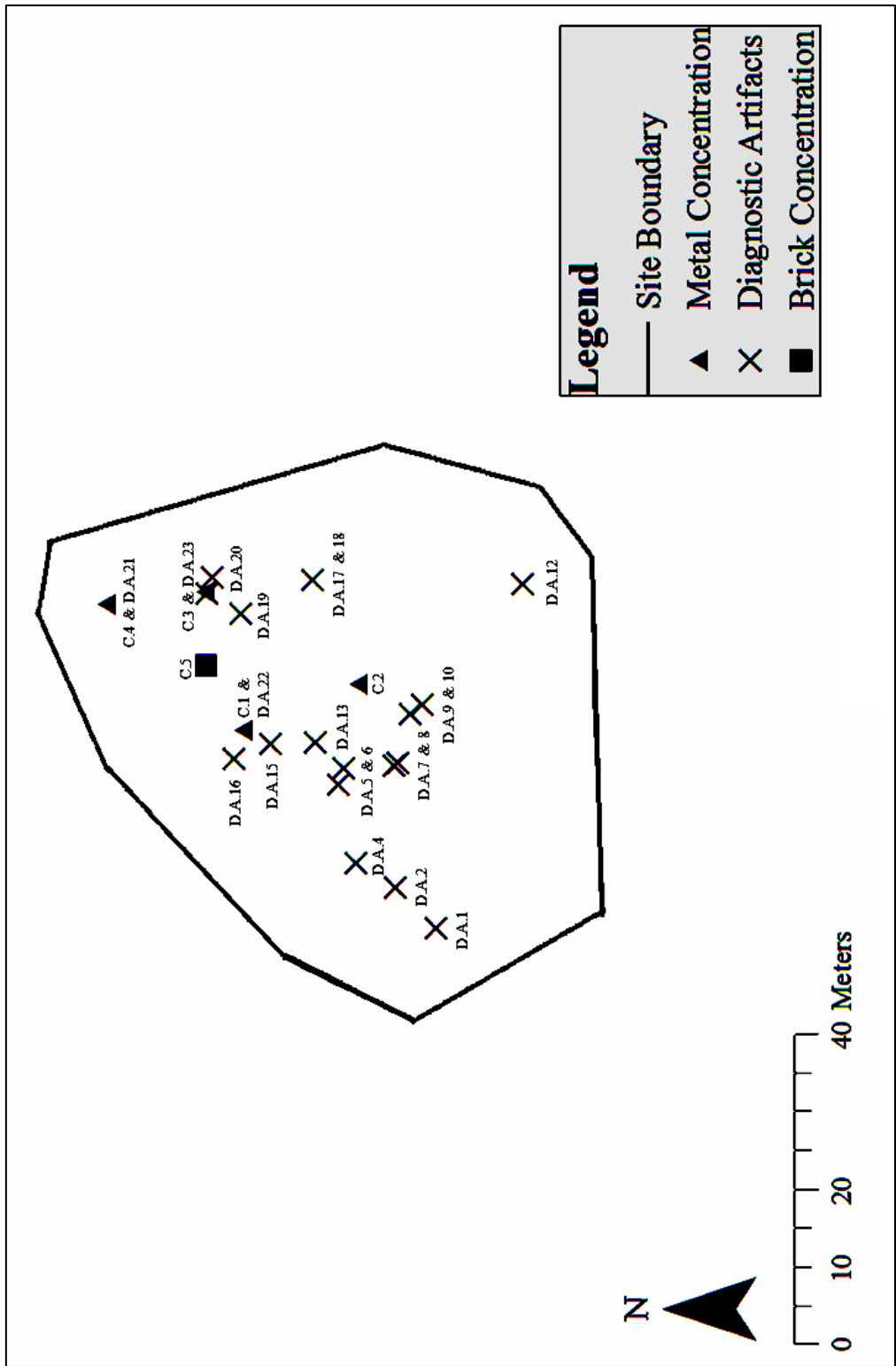


Figure 27. Camp #5 site map created in GIS by the author from GPS data.

Table 8. Ceramic Artifact Summary

Material	Description	Count
Ceramic	Bowl fragments	24
Ceramic	Cup fragments	30
Ceramic	Plate fragments	36
Ceramic	Serving plate fragments	22
Ceramic	Unknown fragments	<u>43</u>
	Artifact Total	154

Subsequent to the archaeological inventory, I discovered a July 1, 1940 Camp #5 kitchen inventory in the SPTLC company records (SPTLC 1940), which listed 179 cups, 170 saucers, 142 plates, 132 soup bowls, 78 large platters, and 76 small platters. No descriptions or dimensions were provided in the 1940 inventory. Combining the historic inventory and archaeological finds, I summarize the ceramics as follows. The cups found at the site were shaped as a regular coffee or tea cup and all had handles, and measurable pieces ranged from 2 to 2 ¼” in diameter and 3 to 3 ½” tall. Bowls were mostly broken, but one was 6” in diameter and 3 ¼” deep. Plates were badly fragmented, so I was unable to distinguish the four different types of plates at according to the 1940 inventory sheet, but two were measured at 10 ½ and 11” in diameter, and were probably dinner plates.

The glass artifacts were primarily colorless, but brown, blue, and green glass was also present at the site (Table 9). Nearly all of the 194 glass artifacts were bottle or jar fragments from the body portion as the glass had a slight curve to it. An unknown fragment category was established during inventory for 21 pieces that were so small I could not confidently establish if they were bottle/jar or window glass fragments.

However, I suspect these fragments are from bottles/jars and not from window panes. Six of the glass artifacts were diagnostic and are described in more detail later on in this chapter. Only four glass finds were complete, all bottles, Diagnostic Artifacts #5, #7, #18, and #23. These will be described with the other diagnostic artifacts.

Table 9. Glass Artifact Summary

Material	Color	Description	Count
Glass	Colorless	Jar rim fragments	26
Glass	Colorless	Bottle or jar body fragments	106
Glass	Colorless	Bottle or jar base fragments	8
Glass	Colorless	Complete bottle	1
Glass	Colorless	Unknown fragments <sup>1</sup>	21
Glass	Brown	Bottle fragments	25
Glass	Brown	Complete bottle	3
Glass	Blue	Bottle fragments	3
Glass	Green	Bottle fragments	<u>1</u>
Artifact Total			194

<sup>1</sup> Could be bottle, jar, or window glass

Several diagnostic artifacts were discovered at Camp #5 site including ceramic, glass, and metal artifacts. The diagnostic artifacts allowed me to determine an approximate date of site occupation between 1920 and 1950, which will be discussed in more detail. See Table 10 for a summary of all diagnostic artifacts. Diagnostic artifacts also provide information about artifact function and site use. Diagnostics will be discussed by material type below: ceramic, glass, and metal.

Of the ceramic artifacts, there are four different marks: TEPCO China (n=4), D.E. McNicol China (n=4), Shenango China (n=2), and Wallace China (n=1). The

ceramic pieces alone provide a site usage date ranging from the 1930s to the 1940s. This estimate is based on two stamped manufacturing dates (1941, 1943), plus maker's marks with the following manufacturing ranges: 1912-1920s (n=1), 1920s-1940s (n=1), 1930-1954 (n=2), and ca. 1940-1950 (n=4). All manufacturing dates overlap at 1940-1943 with the exception of the one Shenango plate dated 1912-1920s. We know the camp was used in 1940 based on the inventory, and in 1943 or later based on the latest plate.

The glass diagnostic artifacts exclusively exhibited Owens-Illinois maker's marks, aside from one colorless glass bottle base fragment which contained the Pierce Class Company maker's mark. Unlike the ceramics, these glass artifacts were not mentioned in the 1940 Camp #5 inventory because they were presumably personal property. All of the glass bottles or bottle fragments with the Owens- Illinois maker's mark are most likely liquor or beer bottles. The jars are of unknown size, but these seem more likely to be broken food jars or jars re-purposed to store food prepared by the camp cooks.



Table 10. Diagnostic Artifacts at Camp #5







Artifact	Type	Size <sup>1</sup>	Maker's Mark Description	Maker's Mark Illustration <sup>2</sup>	Date (Reference)
1	Colorless glass bottle base	3 ½" diam.	Embossed with Owens-Illinois maker's mark	 D9 56 – 7 M3211D (Lockhart 2004)	1937 or 1947 (Lockhart and Hoenig 2015)
2	Aluminum bottle screw cap	1" diam.	Inked with text in a circle	CONTINENTAL DISTILLING CORP.	1937-1947 (Found with Artifact #1)
4	China cup fragment	2 ¼" diam.	Inked in black with maker's mark on base	 CLARKSBURG, W.VA. 1941	1941
5	Complete colorless glass bottle	7 ½" height 4x2" base 1" opening	Embossed with Owens-Illinois maker's mark on base and GORDON'S on body and boar's head above maker's mark	56  40 R – 514 (Lockhart 2004)	1940 (Lockhart and Hoenig 2015)
6	Complete china cup	2 ½" diam. 3 ½" height	Inked in black with maker's mark on base		Patented in 1945 (Lehner 1988:498)
7	Complete brown glass bottle	9" height 1" opening 5"x2" base	Embossed with Owens-Illinois maker's mark on base	56  6 (Lockhart 2004)	1936 or 1946 (Lockhart and Hoenig 2015)
8	China serving plate fragment	7" foot 10 ½" diam.	Inked in black with maker's mark on base		ca. 1940-1950 (Lehner 1988:468)

Table 10. (Continued)









Artifact	Type	Size	Description	Maker's Mark Illustration	Date
9	China plate fragment		Inked in green with maker's mark on base		ca. 1940-1950 (Lehner 1988:468)
10	China bowl fragment	6" diam. 3 1/4" deep	Inked in green with maker's mark on base		ca. 1940-1950 (Lehner 1988:468)
12	China plate fragment		Inked in black with maker's mark on base; green stripe on lip of plate	 CLARKSBURG, W.VA. C 98	1930-1954 (Lage 2004:211)
13	Colorless glass bottle base	3" diam.	Embossed with BRAND & C <sup>o</sup> L <sup>TD</sup> Mayfair in circle with Pierce Glass Company maker's mark	 (Lindsey 2015)	1905-1987 (Lindsey 2015)
15	China cup fragment	2" diam. 3" height	Inked in black with maker's mark on base		ca. 1940-1950 (Lehner 1988:468)
16	China bowl fragment	3 1/4" deep	Inked in black with maker's mark on base	 CLARKSBURG, W. VA. 1943	1943
17	China cup fragment	2" diam.	Inked in black with maker's mark on base	 CLARKSBURG, W. VA. 66	1930-1954 (Lage 2004:211)

Table 10. (Continued)

Artifact	Type	Dimensions	Description	Maker's Mark Illustration	Date
18	Complete brown glass bottle	7" height 1" opening 2 ½" diam.	Embossed with Owens-Illinois maker's mark on base	 <p>20 4633 – CB 7</p> <p>(Lockhart 2004)</p>	1932 (Lockhart and Hoenig 2015)
19	China serving plate fragment	7" width 11" length 2" height	Inked in black with maker's mark on base	 <p>(Restaurant Wares Collectors Network 2013)</p>	1912-1920s (Restaurant Wares Collectors Network 2013)
20	China cup fragment	½" diam. 3 ½" height	Inked in black with maker's mark on base	 <p>(Restaurant Wares Collectors Network 2013)</p>	1920s-1940s (Restaurant Wares Collectors Network 2013)
20	Steel can	6" height 5" diameter	Steel can with Prince Albert Tobacco logo on body	 <p>(ebay.com 2017a)</p>	1910-1963 (Wessler 2015:1)
21	Steel can top	2 ½" diam.	Hole-in-top can top	 <p>(Horn 2005)</p>	Introduced in early 1900s (Horn 2005)
22	Steel drum closure	1 ½" diam.	Steel drum closure with Tri-Sure maker's mark	 <p>(Tri-Sure.com 2017)</p>	Patented in 1934 (Shaw 1934)

Table 10. (Continued)

Artifact	Type	Dimensions	Description	Maker's Mark Illustration	Date
23	Complete brown glass bottle	9" height 1" opening 5"x2" base	Embossed with Owens-Illinois maker's mark on base and "FEDERAL LAW FORBIDS SALE OR REUSE OF THIS BOTTLE" on body	56  6	1936 or 1946 (Lockhart and Hoenig 2015)

<sup>1</sup>Ceramic measurements based off Conroy 1998:326.

<sup>2</sup> Note: Any maker's mark illustration that does not have a reference is my own picture.

Four of the diagnostic glass artifacts are complete bottles. Diagnostic Artifact #5 is a colorless glass bottle with stopper or cork finish and a bottom with the buffalo or Philadelphia base profile (Figure 28). This bottle measures 7 ½" tall with a base of 4" by 2". The word "GORDON'S" is also embossed on the top of the body, and most likely is a "GORDON'S DRY GIN" bottle (Figure 29). Diagnostic Artifact #7 and #23 (two identical bottles) are brown glass screw-top bottles 9" tall with 5 x 2" oval bases (Figure 30). These both have "FEDERAL LAW FORBIDS SALE OR REUSE OF THIS BOTTLE" embossed at the top of the body, and a remnant of a breakaway aluminum screw-top cap on the finish. The final bottle, Diagnostic Artifact #18, is consistent in shape and size of a beer bottle, being the bottle is brown in color and measures 2½" in diameter and 7" tall (Figure 31). This bottle has a smooth bottom with no concentric circles and no signs of stippling on the base, which was prevalent on all soda and beer bottles beginning in the 1940s (Lockhart and Hoenig 2015:10).



Figure 28. Base of Diagnostic Artifact #5. Notice boar's head placed above maker's mark in circle. Base shape is similar to that of buffalo or Philadelphia bottle base profile as depicted by the Intermountain Antiquities Computer System (1992:32).



Figure 29. RIGHT: Liquor bottle found at Camp #5 site (Diagnostic Artifact #5) with "GORDON'S" embossed on top of body. LEFT: similar bottle with "GORDON'S LONDON DRY GIN" embossed on top of body (ebay.com 2017b).



Figure 30. Example of a liquor bottle found at Camp #5 site (Diagnostic Artifacts #7 and #23) in side and base views.



Figure 31. Beer bottle found at Camp #5 site (Diagnostic Artifact #18) in side and base views.

The Owens-Illinois marks on these bottles have date indicators (typically to the right of the symbol) of •2 (n=1), 6 (n=2), 7 (n=1), and 40 (n=1). The interpretation of these numbers depends on the function of the bottle, but generally a two-digit number indicates the year (e.g., 40=1940) and a one-digit number indicates the last digit of the year in the 1930s or 1940s (e.g., 6=1936 or 1946), although this can only be applied to beer and soda bottles confidently (Lockhart and Hoenig 2015:11). Based off of the numbers to the right of the maker's mark and descriptions in Lockhart and Hoenig (2015), these bottles range in age from 1932 to 1947. Diagnostic artifact #7 and #23 have "6" on them, meaning manufacture as early as 1936 and as late as 1946. Diagnostic artifact #1 has a "7," providing a possible date of 1937 or 1947.

The age of diagnostic artifact #18, with the "•2" to the right of the Owens-Illinois maker's mark and the only beer bottle, is a bit more complicated to determine. The O and I in a diamond symbol was in use from 1929 to ca. 1960 (Lindsey 2017). In 1940, the company added basal stippling (Lockhart and Hoenig 2015:10), which is lacking on the Camp #5 specimen, so it presumably dates before 1940. Single digits typically mean 193x or 194x, so 1932 seems most likely for this bottle. The dot before the 2 rather than after it is atypical and is not discussed by Lockhart and Hoenig (2015).

The Owens-Illinois bottles also have marks that might indicate manufacturing information other than date. The location of this number to the left of the logo usually signifies a specific manufacturing factory, as for beer and soda bottles (Lockhart and Hoenig 2015). Diagnostic artifact #18, most likely a beer bottle based on its dimensions, has the factory code "20." This code was assigned to the factory in Brackinridge,

Pennsylvania from 1930 to 1940 and to Oakland, California from 1936 to present (Lockhart and Hoenig 2015:7). If manufactured in 1932 as described above, this would be from the Pennsylvania factory. In the case of liquor bottles, the number to the left reflects the firm's liquor permit (Lockhart and Hoenig 2015:15, Figure 29). The number '56' was found on the bottle bases of artifacts #1, 5, 7, and 24, to the left of the year number, and this number is one of those assigned to an Owens-Illinois plant that had closed by 1969 (Lockhart and Hoenig 2015:16).

The colorless glass bottle base fragment with the Pierce Glass Company maker's mark (Diagnostic Artifact #13), also had "Brand & Co. Ltd" marked on the bottle base. Brand & Co. Ltd. produced a variety of broths, jellies, and juices to help treat common ailments such as exhaustion, flu, and stomach ache (see Figure 32), and this bottle presumably held a purportedly curative meat juice. Finding an artifact such as this does not surprise me as most logging camps were miles away from any doctor, as previously mentioned, and we can imagine a logger using this for self-medication.

In addition to the ceramic and glass artifacts, there were also three metal diagnostic artifacts (Figure 33). The first artifact, a smashed Prince Albert tobacco can, was found in Concentration #4. Prince Albert Tobacco tins can be dated from 1910 to 1963 (Wessler 2015:1), and there is unfortunately no information to provide a more precise estimate. A hole-in-top can top, the second metal diagnostic artifact, is located in Concentration #1. Hole-in-top cans were initially introduced in the early 1900s by Carnation to store evaporated milk (Horn 2005:4).



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Figure 32. Brand & Co. Ltd., Mayfair Works advertisement from 1921 (Grace's Guide 2016).



Figure 33. Photograph of three metal diagnostic artifacts. Top Left: hole-in-top can top (Diagnostic Artifact #21), Top Right: Prince Albert Tobacco tin can (Diagnostic Artifact #20), Bottom: Tri-Sure Closure (Diagnostic Artifact #22).

The last diagnostic metal artifact is a metal container closure with the ‘Tri-Sure Closure’ mark. This closure was found on three metal drums that each measure to be approximately 35” tall by 24” in diameter. The full text of the mark, not clear on the photograph in Figure 53, is “USE MONKEY WRENCH. Tri-Sure. REG. U.S. PAT. OFF. CHICAGO & NEW YORK. U.S. PATENTS. 1901196. 1982144 1982145. FOREIGN PATS. ISSUED & PEND.” The Tri-Sure, a closure device for metallic

containers usually holding liquids such as oil, was patented three different times. The first patent, U.S. Patent 1982144, was filed for on November 7, 1931 (Shera 1934a). The second patent, U.S. Patent 1901196, was filed for on January 6, 1932 and the final patent, U.S. Patent 1982145 was filed for on May 4, 1932 (Shera 1933; Shera 1934b). All of these patents were published in November 1934 for American Flange & Manufacturing Company with the exception of U.S. Patent 1901196 which was published in March of 1933 (Shera 1933; Shera 1934a; Shera 1934b). The three steel drums with this closure, then, cannot date earlier than 1934.

In addition to these time diagnostic artifacts are a number of metal artifacts of unknown age but clear function not in artifact concentrations. These included five sawblades, a cast iron bed frame, and three tin coffee pots (see Figure 34). The sawblades were each 6” wide including saw teeth and partly buried, with 22-46” exposed on the surface. Taking into account the buried gaps between exposed parts of saw blades, one of these was at least 60” long. The dimensions of the iron bed frame exposed was approximately 6’ by 3’ with five bed springs still attached to the frame. The coffee pots measure 9” in height and 6” in diameter with a sort of strain on the spout to presumably keep coffee grounds in pot when pouring into a coffee cup. They have a gray finish that looks to be similar to a graniteware coffee pot illustrated by Mack (2005:65). Graniteware is a type of enamel-coated metal cookware, named for its close appearance to actual granite with its solid color and white speckles throughout the pattern (North 2017).



Figure 34. Photograph of other interesting metal artifacts found at Camp #5 site. Top Left: saw blade with champion saw tooth pattern, Top Right: coffee pot, Bottom: iron bed frame

All of these artifact types are included on the 1940 Camp #5 inventory. According to the inventory, Camp #5 had 34 felling saws and 80 bucking saws in December 1940. Both bucking and felling saws of this period would have the “champion” saw tooth pattern, but the felling saw had a concave back while the bucking saw had a straight back and was significantly stiffer than the felling saw because it was only used by one person and this stiffness kept it from binding (CANbike.ca 2017). The saw blades located at the

site all had the champion saw tooth pattern, but it was difficult to distinguish if they were felling saws or bucking saws as they were buried for most of their length.

The iron bed frame was, undoubtedly, a bed once located in a camp bunkhouse. In 1940, there were 23 bunkhouses measuring 14 x 40 ft that was outfitted with 130 iron cots, 140 mattresses, 455 blankets, 370 sheets, and 160 pillows (SPTLC 1940). The presence of the three coffee pots was not surprising to me as the 1940 inventory sheet counted 22 coffee pots and it can be assumed the men consumed massive amounts of coffee in order to cope with the long work days.

While most artifacts were scattered throughout the site, I recorded four metal concentrations and one brick concentration (Table 11). The metal concentrations were primarily made up of sanitary cans with a few other miscellaneous pieces of metals. These sanitary cans are 7" in height and 6" in diameter with straight sides, lids with embossed concentric rings, and no signs of solder (Figure 35). The cans were most likely opened with a can opener as most cans had signs of a smooth cut-all-around opening style (Horn 2005:9). Also, based on their dimensions, these cans could have held products such as fruits (Intermountain Antiquities Computer System 1992:124). The 1940 inventory does not mention canned goods. The steel drums, located in concentration #3, measure 35" tall x 24" in diameter and all have the 'Tri-Sure' closure described with the diagnostic artifacts in Table 10. These steel drums were most likely used to hold liquids such as kerosene, which was used to dissolve pitch and lubricate saws to ensure no fires were started (Johnson 2007:84), or perhaps fuel for running highline donkeys.

Table 11. Description of Artifact Concentrations

Name	Material	Size	Description	Count
Concentration #1	Metal	10 m x 12 m	25-7" x 6" sanitary cans, 1-hole-in-can top (Artifact #22)	26
Concentration #2	Metal	11 m x 13 m	35- 7" x 6" sanitary cans	35
Concentration #3	Metal	8 m x 11 m	50- 7" x 6" sanitary cans, 3- 35" x 24" steel drums (Artifact #23)	53
Concentration #4	Metal	18 m x 13 m	75- 7" x 6" sanitary cans, Prince Albert Tobacco can (Artifact #21)	76
Concentration #5	Brick	3 m x 5 m	30- 8" x 4" x 2 ½" bricks	<u>30</u>
Artifact Concentration Total				220

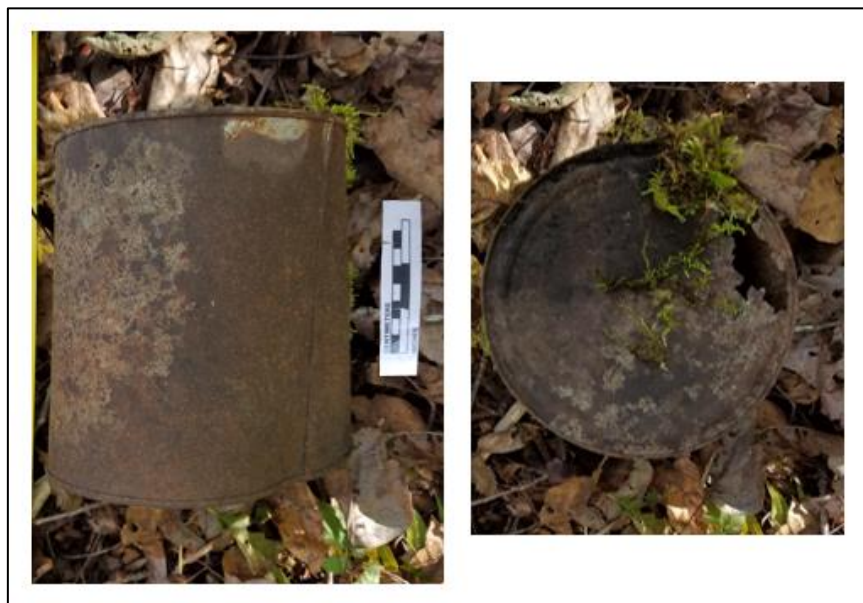


Figure 35. Example of 7" x 6" sanitary cans found throughout the Metal Concentrations.

Concentration #5 consisted of 30 complete bricks in a 3 x 5 m area. The bricks all were the same size (see example in Figure 36) and scattered in no apparent pattern within the concentration. These bricks are presumably building supplies that could indicate a possible structure at Camp #5. However, bricks were not located in the 1940 Camp #5 Inventory.



Figure 36. Example of a brick located in Brick Concentration.

### **Map Findings**

To help establish past land use in the Kapowsin Timberlands and the surrounding areas I attempted to locate various maps including aerial photos, original General Land Office map for the township, and ownership map records from the Bureau of Land Management (BLM). I also examined lidar images of the area provided by the Washington Department of Natural Resources (2017) to try to find evidence of historic railroad grades that might be hidden by vegetation. These lidar images and contemporary satellite images (Google Maps 2017) showed a number of linear features, but it was hard to distinguish past rail corridors from the large number of dirt roads on these images. I was able to locate ownership map records from the BLM, but these ownership records are of the Northern Pacific Railroad Company who owned the Kapowsin Timberlands before

SPTLC purchased them. There are no records of the transfer of ownership to SPTLC.

There were other maps (Stier 1946, USGS 1937) and air photos (USGS 2017c), however, that did provide information on the development and organization of the camp. These not only provide information on the development of the logging railroad, but may also allow for some conclusions to be drawn on how the camp was organized. For example, the shorter spurs indicated on the 1937 USGS map (Figure 22) could indicate where more permanent railcars were placed. This spur could have allowed for placement of cars like at SPTLC Camp #2, which in 1930 included an office car, stone car, cook car, two dining cars, filing car, bath and heating car, and six bunk cars (SPTLC 1930). These spurs could have also been used to turn trains or store railcars waiting to be loaded with timber and transported down the sawmill. As seen in Stier's (1946) map (Figure 23) these spurs were extended in later years to reach more remote stands that were being logged.

A 1952 air photograph (USGS 2017c) shows further information on the location of Camp #5 (Figure 24). From this air photograph, we can see the close proximity of Camp #5 to the railroad line, especially the railroad wye location where the train would turn around. However, the most important piece of information this map provides us with is the area that seems to have disturbed ground, indicated by light colored areas and traces of dirt tracks. This disturbed area is the most likely location of the Camp #5 buildings and the site that I recorded is most likely the camp refuse site.





Figure 37. Closeup of 1952 air photo showing most likely Camp #5 logging camp location in comparison to Camp #5 site located by author. From USGS (2017c). Red dot approximates location of recorded archaeological site. 'A' is a disturbed area and the possible location of Camp #5. 'B' is a split of two railroad lines. 'C' is a railroad bridge location.


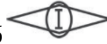







## CHAPTER VI: DISCUSSION AND CONCLUSIONS

From the late 1890s to the late 1950s, SPTLC was a key player in the timber industry in Washington state. The logging camps they established throughout their timberlands, although small and simple in the beginning, would sometimes flourish into small communities. This thesis research has provided an understanding about life in these logging camps and it is important that historical logging camps like these be studied in order to ensure their stories are remembered.

### **Synthesis**

The pedestrian survey for this these resulted in a total of four metal concentrations, one brick concentration, and 634 artifacts, 21 of which had identifiable diagnostic markers. The period of interest for Camp #5 dates from early 1930s to late 1940s. According to SPTLC maps (Stier 1947), Camp #5 was in use from 1934 at least through 1947. This time range does correlate with nearly all of the diagnostic artifacts located during the pedestrian survey, although there is some uncertainty because some artifacts were manufactured over a range of years (see Table 12), and artifacts may be used long after manufacture. All of the artifacts are consistent with the Stier (1947) recorded dates, in that all either were definitely manufactured before 1947 or the years 1934-1947 fall within the range of their manufacture dates. The four artifacts with exact years of manufacture provide dates of 1940, 1941, 1943, and 1945. The only puzzling

Table 12. Chart Comparing Dates of Diagnostic Artifacts and Historic Records from Camp #5

Age Indicator	Year									
	1910	1915	1920	1925	1930	1935	1940	1945	1950	1955
Stier (1947) map						X <u>1934</u>	X	X 1947		
Letters and camp inventory						X <u>1935</u> <u>1939</u>	X <u>1940</u> <u>1941</u> <u>1943</u>			
 56 — 40 R — 514							X <u>1940</u>			
 56 — 6						X 1936	X	X 1946		
 20 — .2 4633 — CB 7					X 1932	X	X 1942			
 D956 — 7 M3211D						X 1937	X	X 1947		
								X <u>1945</u>		
					X 1930	X	X <u>1941</u> <u>1943</u>	X	X	X 1954
							X 1940	X	X 1950	
	X 1912	X	X 1920s							
			X 1920s	X	X	X	X	X 1940s		
<b>Tri-Sure®</b>						X <u>1934</u>				

\*Note that all underlined dates are exact dates that have been provided from that maker's mark or other sources and all other dates show a range of time.

artifact is the Shenango plate, which was reportedly manufactured between 1912 and the 1920s. Presumably this was still in use before it was broken and discarded in the 1930s or 1940s, although that seems a bit odd for an artifact as fragile as a ceramic plate.

As a way to get at site function from the artifacts, I grouped the artifacts in the functional categories proposed by Sprague (1982) and also used by Miss et al. (2000:76). This is summarized in Table 13. The large proportion of domestic items leads me to believe this site was, at the very least, a camp. The addition of the sawblades reinforces my belief that this site was a logging camp.

Table 13. Functional Classification of Artifacts

Classification	Finds	N	%
Personal Items	Broth bottle, beer/liquor bottles, tobacco tin	7	1
Domestic Items	Ceramics, tin cans, coffee pots, bedframe	343	53
Architecture	Bricks	30	5
Commerce & Industry	Saws, steel drums	8	1
Unknown	Broken glass (could be personal or domestic)	<u>255</u>	<u>40</u>
	TOTAL=	643	100

There is little direct evidence for the social makeup of the workers at Camp #5. The personal items (e.g., whiskey bottles and tobacco tin) located at this site could suggest that the occupants of this camp were primarily men. It is likely that women worked at the camp, based on photographs like Figure 14, wherein 1/3 of the mess hall crew in a 1938 camp were women. The 1941 employee seniority list (SPTLC 1941) also lists a number of employee names that sound female. The fact that the camp was in use during World War II might also suggest women employees, as was true for other

industries of the period. Although these do suggest that women would have been working and living at camp there was no archaeological data that backed up these documents. There is no indication of race or ethnicity, such as sometimes possible from distinctive artifacts.

Although the pedestrian survey did not document any physical structures, this is not surprising as most logging camps were made to be easily transportable despite the length of time a camp may be in one place. The lack of any window glass fragments and clear brick features also implies that the locations of these buildings are temporary. This mobility made logging operations extremely efficient. Furthermore, this lack of any physical structures could also be attributed to the camp fire that occurred at Camp #5 in 1940. Fires were extremely prevalent throughout logging camps and because these fires occurred so often firefighting equipment was kept at each camp (Morgan 1982:172). Company employees rarely worked exclusively as a firefighter, instead most privately-owned forests paid two cents an acre annually to supplement fire prevention work conducted by the state (Morgan 1982:172). It should also be noted that there was a layer of duff that could have obscured other archaeological evidence. There are many items on the inventory that could have possibly left a feature, for example, the sanitary toilets which could have left behind a latrine or privy or other feature where the waste would have been stored.

These artifacts also help me establish the difference between personal and company property. For example, there are no glass bottles located in the 1940 SPTLC Camp #5 inventory. This does not surprise me as these bottles were primarily liquor bottles and

most likely personal property. The small number of personal items such as liquor bottles and tobacco tins leads me to believe that SPTLC provided all the basic amenities needed for life at camp (e.g., coffee pots and ceramics) and the tools essential in completing logging tasks (e.g., sawblades).

Establishing the population size based on the artifacts found at the camp proved to be a bit difficult. In 1934, there were 333 Camp #5 employees on the SPTLC payroll (Western Operators Association 1934). The 1940 inventory sheet suggests the camp population to be approximately 130 residents, based on the 132 soup bowls. The camp was also outfitted with 130 iron cots which confirms my hypothesis that, at the very least, 130 residents occupied the camp at the end of 1940. These estimates assume one set of users each day, like might be true today, but there may have been many more if bunkhouses used “hot swapping” and mess halls served multiple shifts of meals each day. Since there were 23 bunkhouses, this would make five or six men per bunkhouse at a time if each bunkhouse had about the same number of residents. This total camp population number, however, could have fluctuated following the disastrous July 1940 fire as men may have had to have transferred to other camps while Camp #5 was rebuilding.

The history of logging camps in western Washington is not well-known and the history of Camp #5 is no different. This camp would be completely unknown if it weren't for a remaining few historical maps and company records. In the early stages of my research it was difficult to locate any primary sources and I found myself limited to secondary sources that provided little information on logging camps in Washington state let alone in the Kapowsin Timberlands. Continuing my research, I was eventually able to

locate primary sources such as a historical map with the locations of logging camps, pictures of SPTLC logging camps and crews, an inventory list of Camp #5 SPTLC property in 1940, and correspondence between SPTLC employees. These sources offered an abundance of information integral in understanding the organization and residents of Camp #5.

One of the goals of this project was to evaluate the Camp #5 site for eligibility for the National Register of Historic Places. SPTLC was “one of the largest and best capitalized logging companies in the Pacific Northwest” (Miss et al. 2000:114). It was noted as a regional economic leader from the early 1900s through the 1950s (Morgan 1982). Based on the company’s large-scale logging operations and the importance of railroad logging to the history of Washington state, historic properties associated with it could conceivably be eligible for nomination under Criterion A as “associated with events that have made a significant contribution to the broad patterns of our history” (Little et al.2000; Shrimpton 2002). However, archaeological sites are almost always considered under Criterion D, meaning they have “yielded or may be likely to yield, information important in history or prehistory” (Little et al.2000; Shrimpton 2002). This typically comes down to how much potential a site may have to provide information important to regionally-defined important research questions. Besides meeting this criterion, sites must also exhibit “integrity,” typically meaning they have intact archaeological deposits.

Although the surface artifacts located during my research at Camp #5 do provide interesting information, these are clearly not enough to allow the site to be recommended

eligible for the Register. More important information on life in logging camps could be found below the surface, if there are significant, well-preserved archaeological deposits on-site. Further discovery of artifacts or features during excavations could help shed light on aspects of camp life particular to just the SPTLC or western Washington. These subsurface excavations could provide more information on camp organization by possibly locating features such as foundations the camp buildings sat on and privies. Further excavations may even render information on camp demographics. However, at this point in time I would not recommend Camp #5 to be eligible for listing in National Register of Historic Places until further investigations were completed to ensure that this site does have the potential to make significant contributions to the understanding of life in SPTLC logging in the 1940s.

### **Future Research**

My research on SPTLC Camp #5 revealed new insights into the archaeology of logging camps and camp life in the Pacific Northwest, but there is much more to learn. Future scholars could gather considerably more historical data using the SPTLC records alone, which include 411 boxes of which I examined less than 10%. These archives could reveal information on topics such as labor relations, demographics, and World War II economics. For example, the job applications alone might reveal information about hiring trends and worker demographics. Another topic of interest with historic research is the Puyallup Flume which I noted on the 1937 USGS topographic map paralleling the



Puyallup River from about the Mowich River to Kings Creek. This must reflect another aspect of SPTLC logging history that I did not discover.

### **Protection of Cultural Resources in Washington's Forests**

Preserving the history of these logging camps is integral to understanding the beginnings of many small communities within Washington state. Fortunately, the Washington State Department of Natural Resources discusses the protection of cultural resources in their Forest Practices Act. Under this act, it is required that all those participating in logging operations will submit an application to the Washington State Department of Natural Resources, which then asks if the applicant has evaluated the proposed area of activity for any potential archaeological or historical sites (WSDNR 2009:22). The applicants are also notified if the proposed area of activity is of interest to a local tribe, in which case, the applicant is required to meet with said tribe and reach an agreement on how those resources will be handled (WSDNR 2009:22). The discovery of any cultural resources does not necessarily result in the termination of logging operations in the proposed area of activity, but will instead require further consultation (WSDNR 2009:26).

I believe that first step in protecting these cultural resources is to ensure that those working in the forests are able to accurately identify any archaeological or historical artifacts, sites, features, etc. By helping those currently working in the timber industry become familiar with historic sites such as logging camps, these sites will be able to be better protected while still ensuring logging operations continue. It is integral to the

protection of Washington state's history that landowners, government agencies, and tribes work together to protect and manage all cultural resources located in Washington's forests.

Although the St. Paul and Tacoma Lumber Company no longer exists, the presence of their logging camps and the communities that developed from them remain today. Physical traces of these communities can be found in Washington's forests in the form of artifacts while stories of these camps and lumbermen continue to be passed on from generation to generation. It is my hope that this thesis adds to not only Washington state's early history, but also to the history of the timber industry.

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APPENDIXES A:  
GLOSSARY OF LOGGING TERMS

Term	Definition
Blow Down	a tree felled by natural causes such as the wind
Board Feet	quantity of lumber contained in, or derived from a piece of rough green lumber 1 inch thick, 12 inches wide, and 1 foot long; used to explain the amount of wood coming out of the forest and into timber mills; commonly abbreviated at “ft. B.M.”
Buck	Cut tree into specified lengths after it has been felled to more easily transport
Bullcook	Boy who performs various chores around camp, including cutting wood for fuel and sweeping bunkhouses
Calks	lumberman’s preferred footwear; high-topped, steel-spiked usually leather boot that helped give the lumberman steady footing on a fallen log
Choker	small piece of cable used to attach logs to the yarding system such as the skidder
Choker Hole	A hole dug underneath a log to allow a choker to be placed around the log
Cold Deck	reserve of logs to be moved at a later date to ensure year-round income
Cruiser	a forester or logger who estimates the amount of profitable timber, usually done by walking stands
Flunky	a cook’s assistant who often waits on tables
Gut Robber	a camp cook who has received negative reviews from lumbermen
Landing	Mostly flat ground where logs are yarded, to be loaded onto train or log truck for transportation to a lumber mill
Log Booms	A barrier placed in a river or a lake that was designed to collect and corral floating logs timbered from nearby forests
Scribner Log Rule	Developed around 1846, is an example of a diagram rule. Created by drawing the cross-sections of 1-inch boards within circles representing the end view of logs. A space of 1/4 inch was left between the boards to account for saw kerf, or width of saw blade (Timber Buyers Network 2017).



Silviculture	the planting, treatment, and management of a timberland usually completed by an employee known as a forester
Skidroad	Path that logs are pulled on either by animals or specialized machines in later days
Spar Tree	Tree used as the highest anchor point in high lead cable logging. The spar tree was selected based on height, location, strength and lack of rot all of which were needed in order to withstand the weight and pressure required. After a spar tree was selected a climber would remove the tree's limbs, top the tree, and fix several cables around. The spar tree has now been replaced by portable towers, called Yarders.
Springboard	a light and flexible piece of wood that is inserted into a notch in the tree to be used as a platform for fellers to stand on while felling the tree
Timber Beast	a rough, tough, and ill-mannered lumberman
Tin pants	Waterproof clothing primarily worn by lumbermen in the Pacific Northwest
Widow Maker	Dead limb hanging on a tree above you
Wye	a triangle of railroad track, used for turning locomotives or trains
Yarding	Bringing in logs to the landing by any method.

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APPENDIXES B:

SPTLC RECORD BOXES EXAMINED

<b>UW Box #</b>	<b>UW Box Label</b>	<b>My Comments</b>
147	Interoffice Correspondence 1928-1930	Injuries at camps
148	Interoffice Correspondence 1931-1932	
149	Interoffice Correspondence 1932-1934	
150	Interoffice Correspondence 1934	
151	Interoffice Correspondence 1935	Occupation types & equipment
152	Interoffice Correspondence 1935-1936	
153	Interoffice Correspondence 1936	
154	Interoffice Correspondence 1936-1937	
155	Interoffice Correspondence 1937-1938	Injuries at camps
156	Interoffice Correspondence 1938	
157	Interoffice Correspondence 1939	
158	Interoffice Correspondence 1940	
159	Interoffice Correspondence 1940	
160	Interoffice Correspondence 1941-1943	
161	Interoffice Correspondence 1942-1943	
162	Interoffice Correspondence 1943	
163	Interoffice Correspondence 1944-1945	
164	Interoffice Correspondence 1945-1946	
165	Interoffice Correspondence 1946-1947	
166	Interoffice Correspondence 1947-1948	
178	Interoffice Correspondence Regarding Logging Camps	
179	Interoffice Correspondence Regarding Logging Camps	
180	Interoffice Correspondence Regarding Logging Camps	Specific information about Camp #5
181	Interoffice Correspondence Regarding Logging Camps	
189	Camp – St. Paul & Tacoma Lumber Camps	
190	Camp – St. Paul & Tacoma Lumber Camps	
191	Camp – St. Paul & Tacoma Lumber Camps	

196	Memoranda	Payroll information
286	Cash Journal, Ledger (General & Individuals), Seniority List	List of employees names





**INVENTORY** December 31, 1940. Page I

Sheet No. \_\_\_\_\_ Priced by \_\_\_\_\_

Called by \_\_\_\_\_ Department Cookhouse. Extended by \_\_\_\_\_

Entered by \_\_\_\_\_ Location Camp Five. Examined by \_\_\_\_\_

K. 11111111  
M. 11111111

CHECK	QUANTITY	UNIT	DESCRIPTION	✓	PRICE	UNIT	EXTENSIONS													
	16		Tables																	
	32		Benches																	
	179		Cups																	
	170		Saucers																	
	142		Plates																	
	132		Soup Bowls																	
	170		Table Knives																	
	166		" Forks																	
	252		" Spoons																	
	168		Tea "																	
	48		Salt And Peppers																	
	20		Small Ladles																	
	8		Large "																	
	10		Skimmers																	
	12		Basting Spoons																	
	1		Meat Fork																	
	1		Steel																	
	1		French Knife																	
	78		Large Platters																	
	22		Coffee Pots																	
	22		Milk Pitchers																	
	27		Syrup Pitchers																	
	76		Small Platters																	
	124		Deeps																	
	1		#2 Milund Can Opener																	
	43		3 Qt. Enamel Bowls																	
	8		" Pails																	
	16		" Pans.																	
			Amount Forward																	

**INVENTORY** December 31, 1940, Page 1

Sheet No. \_\_\_\_\_ Priced by \_\_\_\_\_  
 Called by \_\_\_\_\_ Department **Camp Equipment** Extended by \_\_\_\_\_  
 Entered by \_\_\_\_\_ Location **Camp Five,** Examined by \_\_\_\_\_

K 1231 W  
MAY 11 1941

CHECK	QUANTITY	UNIT	DESCRIPTION	✓	PRICE	UNIT	EXTENSIONS
	1		Lang Cook Stove 10'6"x2'6"				
	2		Wash. 36" x 52"				
	3		Great Western #349 Stoves				
	7		Lang 23" x 34" Stoves				
	4		Air Tight Heaters #20				
	6		Arctic Cast Iron Heaters				
	3		Hughes 3 Oven Ranges				
	1		Stekel #40750 Mod. H.B.R.A.2				
	1		" #40760 " H.B.R.A.2				
	1		G.E. Motor I H.P.A.N. 6765				
	1		Refridgerating Motor A.U.8732				
	1		Ammonia Tank And Pump				
	7		Galv. Tanks 22"x60"				
	1		" " 24"x60"				
	4		Steel Septic Tanks 60"x50"				
	2		" " " 38"x48"				
	131		Iron Cots				
	140		Mattress				
	466		Blankets				
	370		Sheets				
	260		Pillow Slips				
	160		"				
	17		#24 Stoves				
	10		Sanitary Toilets				
	40		1 1/2" Faucets				
	16		Shower Heads				
	4		Galv. Laundry Trays				
			Amount Forward				

**INVENTORY** December 31, 1940 Page I

Sheet No. \_\_\_\_\_ Priced by \_\_\_\_\_

Called by \_\_\_\_\_ Department Buildings Extended by \_\_\_\_\_

Entered by \_\_\_\_\_ Location Camp Five. Examined by \_\_\_\_\_

K 1512 W  
REV 15 U.S.A.

CHECK	QUANTITY	UNIT	DESCRIPTION	✓	PRICE	UNIT	EXTENSIONS
			Dims. Fdn. Use.				
B-			14x40' Sills Bunkhouse. (New)				
B-			" " " " "				
B-			" " " " "				
B-			" " " Washroom. "				
B-			" " " Bunkhouse. "				
B-			" " " " "				
B-			" " " " "				
B-			" " " " "				
B-			" " " " "				
B-			" " " " "				
B-			" " " " "				
B-			" " " " "				
B-			" " " Washroom. "				
B-			" " " Bunkhouse. "				
B-			" " " " "				
B-			" " " Storage "				
B-			12x22' Sled Refridgerating				
B-			14x40' Sills Bunkhouse. (New)				
B-			" " " " "				
B-			" " " " "				
B-			" " " " "				
B-			" " " " "				
B-			" " " " "				
B-			" " " Filing Shed "				
B-			" " " Bunkhouse. "				
B-			" " " " "				
			Amount Forward				