



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
**REGION 10**  
1200 Sixth Avenue, Suite 155  
Seattle, WA 98101

SUPERFUND & EMERGENCY  
MANAGEMENT DIVISION

05/14/2021

**MEMORANDUM**

**SUBJECT:** Approval and Funding for a Time-Critical Removal Action at the Onalaska Wood Pyrolysis Site, Onalaska, Lewis County, Washington

**FROM:** Brooks Stanfield, On-Scene Coordinator  
Spill Prevention, Assessment and Removal Section

**THRU:** Wally Moon, Section Chief  
Spill Prevention, Assessment and Removal Section

Beth Sheldrake, Branch Chief  
Emergency Management Branch

**TO:** Calvin Terada, Director  
Superfund and Emergency Management Division

**SITE ID:** 10TH

**I. PURPOSE**

The purpose of this Action Memorandum is to request, and document approval of the selected Time-Critical Removal Action described herein for the Onalaska Wood Pyrolysis site (Site) located at 1674 State Highway 508, Chehalis, Lewis County, Washington.

This selected Time-Critical Removal Action meets the criteria for initiating a removal action under the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. § 300.415.

**II. SITE CONDITIONS AND BACKGROUND**

The SEMS ID No. is WAN001020623.

The Site includes an 8-acre former sawmill facility that was converted into an industrial facility for the pyrolysis of wood waste in 2015. The pyrolysis process generated a wood biochar product that can be sold primarily as a soil amendment for agricultural applications. Two principal byproducts are also generated through this method of producing biochar: wood tar and wood vinegar. The original operator – Onalaska Wood Energy, LLC (OWE) – that began pyrolysis activities at the Site, operated from 2015 to 2018 under a lease agreement. During this period OWE reported to the Washington Department of Ecology Hazardous Waste and Toxics Reduction Program (Ecology) that concentrations of toxics in the wood tar and wood vinegar fell below state and federal hazardous waste thresholds and that there was a market for their sale. OWE was unsuccessful in providing verifiable analytical data to support the claims regarding a non-

hazardous waste designation and never successfully identified a market for the waste. In March 2020 the company ceased operations and dissolved the corporation leaving an estimated 100,000 gallons of accumulated wood tar and wood vinegar waste at the Site.

On June 30, 2020, Ecology's Southwest Regional Office received a letter from Lewis County Water District #2 (Water District), expressing concerns that a new company was re-starting pyrolysis operations at the Site.<sup>1</sup> The Water District operates a wastewater treatment plant on a property directly adjacent to the Site which is the community's only wastewater treatment facility. The letter explained how past practices of "dumping toxic industrial waste" into the county sewer system had upset the plant's treatment processes. The letter also recounted that in the past, after the Water District requested OWE provide information on the contents of the waste, OWE reportedly began dumping the material directly to the ground, which again migrated into the treatment plant by way of a drainage ditch. The Water District finally expressed concern in the letter to Ecology that the continued storage of large volumes of this hazardous waste on-Site posed the threat of another plant disruption.

Following up on the Water District's complaint, Ecology learned that a new entity, CJC West, LLC (CJC), had taken over the pyrolysis operations and equipment at the Site. Ecology issued a Notice to Comply to CJC on September 16, 2020. The notice cited violations of the conditions for exemption for large quantity generators and directed CJC to take specific actions to safely manage and dispose of the waste that had accumulated on Site.<sup>2</sup> Ecology never received a formal response from CJC following the issuance of the Notice. In December 2020, Ecology contacted EPA's Removal Program to discuss the human health and environmental risks the Site posed and options for removing the waste. CJC ceased operations at the Site in February of 2021 and has not responded to subsequent inquiries made by Ecology.

## **A. Site Description**

### **1. Removal site evaluation**

EPA's Removal Program conducted several preliminary site visits in January and February of 2021 joined by CJC's plant manager, officials from Ecology, and Lewis County officials representing the Environmental Health Department, Fire Marshal's office and building inspection. Concerns over the continued presence of the hazardous waste among state and county officials had become elevated following two separate fire incidents that had occurred at the Site over the prior six weeks. The Lewis County Building Official also indicated that over 40,000 gallons of liquid hazardous waste stored in 275-gallon totes with no secondary containment were sitting inside a structurally unsound building that was at great risk of collapse in a snow or high wind event.<sup>3</sup>

On January 26, 2021, EPA received a formal written request for assistance from Ecology to conduct an

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<sup>1</sup> 1674 St Hwy 508, previously owned by Karr, and operating as Onalaska Wood Energy. July 30, 2020 Letter from Amie Smith, District Manager of Lewis County Water District #2 to Steve Ogle, Municipal Unit Supervisor, Washington Department of Ecology Southwest Regional Water Quality Program.

<sup>2</sup> Washington Department of Ecology Hazardous Waste and Toxics Reduction Program Notice to Comply with WAC 173-303-060 and 173-303-170 issued to Jim Brown of CJC West, LLC on September 16, 2020.

<sup>3</sup> Email from Doyle Sanford, Lewis County Building Official/Fire Marshal to Dee Williams, Compliance Inspector – Washington Department of Ecology Hazardous Waste & Toxics Reduction Program. January 22, 2021.

“emergency removal action to address characteristic dangerous waste” stored at the Site.<sup>4</sup> In addition to the events and risks already raised by Lewis County officials, Ecology noted in its request that the Site sits within a Critical Aquifer Recharge Area and that a release of hazardous substances from the Site could have a significant impact on local estuaries. Ecology described the local community of Onalaska as “economically disadvantaged.” The median household income in Lewis County as a whole was \$58,911 in 2019, which was less than the state’s (\$78,687) and the nation’s (\$65,712).<sup>5</sup> Unemployment and poverty in Lewis County are both higher than the state average by 30% and 18% respectively.<sup>6</sup> However, one notable recent success story from Onalaska, which was cited in Ecology’s letter, has been the local high school aquaculture program and fish-rearing facility. This project has received broad support from Chehalis Tribe, Chehalis River Basin Task Force, Washington Department of Fish and Wildlife, and the community. Students release juvenile salmon and steelhead raised in their facility into Gheer Creek, less than a half-mile from the Site.

Following receipt of Ecology’s request for assistance, EPA conducted a Removal Site Evaluation (RSE) pursuant to 40 C.F.R. § 300.410 to assess the presence, concentrations and migration pathways of hazardous substances at the Site to determine risks of exposure. The RSE sampling effort, conducted during two site visits in March and April 2021, focused on characterizing wood tar and wood vinegar held in a variety of tanks and containers in several locations throughout the facility. EPA sought to identify the chemical composition of the contents, understand potential migration pathways and risks, calculate volumes and complete a formal designation of the material in accordance with state and federal hazardous waste regulations. An aerial overview of the Site and its primary features is provided in Figure 1.

During the RSE, EPA observed an estimated 100,000 gallons of wood tar and wood vinegar being stored in three 8,000-gallon above-ground storage tanks (ASTs) and nearly two hundred 275-gallon poly totes in at least four locations at the Site. The majority of hazardous waste was outside or within buildings that provide no restriction to access and provide no secondary containment (Figures 2 and 3). The three ASTs were located within a secondary containment area that was full of an estimated 15,000 gallons of water (Figure 4). An accumulation of wood tar was observed at the bottom of the containment and field measurements indicated the pH of the water to be approximately 3. Cracks had led to staining of the containment walls and surrounding soil suggests that containment walls were leaking or had been breached in the past (Figure 5). A patchwork layer of roofing panel scraps had been set up around the bases of the ASTs in an attempt to keep the containment from filling with rain. When EPA first visited the Site in January 2021, approximately 157 totes and at least 11 various sized drums (estimated total capacity of 43,675 gallons) sat inside an open-air former sawmill building sitting less than 60 feet from a neighboring residential home, with no restrictions to entry and no secondary containment. Because the Lewis County Fire Marshal and Building Official, and other authorities who were present during the site visit, expressed concerns about the structural integrity of the former sawmill building (Figure 6), the CJC facility manager at the time, relocated these containers to another building. Days later the structure suffered a partial roof collapse during a winter snowstorm.

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<sup>4</sup> CJC West, LLC Request. January 26, 2021 Letter from Darin Rice, Program Manager of Washington Department of Ecology’s Hazardous Waste and Toxics Reduction Program to Wally Moon, Chief of the U.S. Environmental Protection Agency Region 10 Spill Prevention, Assessment and Removal Section.

<sup>5</sup> <https://esd.wa.gov/labormarketinfo/county-profiles/lewis>

<sup>6</sup> <https://esd.wa.gov/labormarketinfo/monthly-employment-report>

Most of the totes were observed to be stacked “two-high” with one sitting atop another. The condition of totes varied with some showing extreme discoloration while others showed “paneling” where internal pressure appeared to have caused totes to begin collapsing inward. It was unclear whether the integrity of some totes had been compromised by the low pH of the contents, the temperature of the liquid at the time it was transferred, or other factors, however EPA Emergency Response & Removal Services (ERRS) contract disposal specialists participating in the site visit determined that the totes would not be safe to transport off-site in their current condition. It is assumed that any potential movement of the totes could cause a significant failure and release of contents.

EPA learned during the January site visit that the facility had experienced two separate fires in the prior six weeks. The Lewis County Fire Marshal expressed concerns about ongoing fire risk due to the presence of industrial machinery operating at high temperatures, large stockpiles of combustible wood waste, and limited fire suppression water available on Site. The property sits within the South Fork Newaukum valley and based on the spread of particulate emissions observed by Lewis County Environmental Health officials during past pyrolysis operations, a fire at the Site would expose residents, livestock, and businesses within a 2-mile radius to smoke.<sup>7</sup>

Samples of wood tar taken by EPA during the RSE detected concentrations of volatile and semi-volatile organic compounds (VOCs and SVOCs). Concentrations of naphthalene, and 2,4-dimethylphenol in wood tar exceeded EPA Removal Management Levels (RMLs) by approximately two times (Table 1). Due to elevated benzene concentrations the wood tar is designated as a D018 characteristic Resource Conservation and Recovery Act (RCRA) Hazardous Waste. Human exposure to any of these three contaminants through inhalation, dermal absorption or other means can lead to adverse health effects. All three are known or suspected human carcinogens. Naphthalene and 2,4-dimethylphenol are toxic to aquatic life with long lasting effects.<sup>8,9,10</sup>

Samples of wood vinegar taken by EPA during its RSE detected cyanide along with a suite of metals, VOCs and SVOCs including polycyclic aromatic hydrocarbons (PAHs). Samples of this waste showed a pH consistently between 2.5 and 3. Two contaminants: 2-methylphenol (o-cresol) and 4-methylphenol (p-cresol) were detected at high enough concentrations that the waste is designated as a D023 and D024 characteristic RCRA Hazardous Waste for toxicity (Table 1). Both are highly corrosive and acutely toxic to humans through dermal contact.<sup>11,12</sup> Wood vinegar also exceeded Washington State Model Toxics Control Act (MTCA) surface water criteria for four additional contaminants that in combination create additional risks to human and aquatic receptors. These include arsenic, 1,2,4-trichlorobenzene,<sup>13</sup> 2,4-dimethylphenol, and butyl benzyl phthalate.<sup>14</sup>

Overall, the abandoned hazardous waste poses a threat of release because of the condition of containers, absence of secondary containment, history of uncontrolled fires and structural failures and lack of persons or agencies able to manage the waste appropriately. Release of liquid waste from an incident such as a building collapse could expose on-site workers, emergency responders, and individuals on

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<sup>7</sup> Bill Teitzel, Lewis County Environmental Health. Personal communication. January 21, 2021.

<sup>8</sup> <https://pubchem.ncbi.nlm.nih.gov/compound/Benzene#section=Hazards-Identification>

<sup>9</sup> <https://pubchem.ncbi.nlm.nih.gov/compound/Naphthalene#section=Safety-and-Hazards>

<sup>10</sup> <https://pubchem.ncbi.nlm.nih.gov/compound/2,4-Dimethylphenol#section=GHS-Classification>

<sup>11</sup> <https://pubchem.ncbi.nlm.nih.gov/compound/335>

<sup>12</sup> <https://pubchem.ncbi.nlm.nih.gov/compound/2879>

<sup>13</sup> <https://pubchem.ncbi.nlm.nih.gov/compound/13#section=Safety-and-Hazards>

<sup>14</sup> <https://pubchem.ncbi.nlm.nih.gov/compound/Benzyl-butyl-phthalate#section=Hazard-Classes-and-Categories>

neighboring properties to corrosive, acutely toxic, and carcinogenic substances through inhalation and dermal contact. A significant release of liquids migrating into the stormwater ditch could also have a significant negative impact on aquatic ecosystems and community-raised fish stocks in Gheer Creek due to the low pH of the liquid waste and the long-lasting toxic affects contaminants such as naphthalene, 1,2,4-trichlorobenzene and 2,4-dimethylphenol are documented to have on aquatic life. Past releases have entered into the community's only wastewater treatment plant by way of a separate drainage ditch and upset the biological treatment of waste. The treatment plant operators are concerned that the release of the volume of hazardous waste currently stored on the property could force their facility to shut down operations and disrupt critical service to the community. Finally, a fire at the facility could lead to the release of smoke containing several carcinogens throughout the valley and affecting a population within a two-mile radius.

**Table 1: Summary of Contaminants Found During RSE Sampling Events**

Media	Estimated Quantity	Hazardous Substances, Pollutants or Contaminants	Concentrations detected	Reference Level
Wood Tar	22 cubic yards	Benzene	19 mg/L	0.5 mg/L <sup>15</sup>
		Naphthalene	230 mg/kg	130 mg/kg <sup>16</sup>
		2,4-Dimethylphenol	2,500 mg/kg	1,500 mg/kg <sup>16</sup>
Wood Vinegar	100,000 gallons	2-Methylphenol (O-cresol)	280 mg/L	200 mg/L <sup>15</sup>
		4-Methylphenol (p-cresol)	430 mg/L	200 mg/L <sup>15</sup>
		Arsenic	0.0141 mg/L	0.0025 mg/L <sup>17</sup>
		1,2,4-Trichlorobenzene	0.8 mg/L	0.049 mg/L <sup>17</sup>
		2,4-Dimethylphenol	150 mg/L	0.36 mg/L <sup>17</sup>
		Butyl Benzyl Pthalate	0.43 mg/L	0.21 mg/L <sup>17</sup>

## 2. Physical location

The Site is located at 1674 State Highway 508, approximately 13 miles southeast of Chehalis, Washington. The precise location is 46.572625 North Latitude; -122.729635 West Longitude. The Site is located within an area that is mostly residential and agricultural. The closest surface water body is Gheer Creek, which is located approximately 150 feet from the Site's northwest corner. Gheer Creek originates from Carlisle Lake, which is located less than half a mile from the Site. Gheer Creek is a tributary of the South Fork Newaukum River, which subsequently flows into the Newaukum River and eventually the Chehalis River. This location typically receives an average of 56 inches of rainfall annually and approximately 4 inches of snowfall annually. Temperatures for this area generally range from the low 30s to 80 degrees Fahrenheit throughout the year.<sup>18</sup>

<sup>15</sup> [Federal RCRA hazardous waste threshold for toxicity.](#)

<sup>16</sup> Applicable EPA Removal Management Level (RML)

<sup>17</sup> Washington State MTCA Surface Water Method C criteria

<sup>18</sup> <https://www.bestplaces.net/climate/city/washington/onalaska>

### 3. Site characteristics

The Site consists of six main buildings ranging from approximately 2,500 to 6,500 square feet in size that were formerly used for sawmilling and more recently wood pyrolysis activities (Figure 1). At least one of the buildings is in a state of disrepair leading to its partial collapse during a winter storm in 2021. Attached to the pyrolysis building is a lean-to structure where an estimated 22,550 gallons of hazardous waste in eighty-two totes are stored. The Site also has three 8,000-gallon ASTs set inside a secondary containment area that has become filled with a mix of wood tar, wood vinegar, and rain. Stockpiles of unprocessed wood waste sit under two large 2,000-3,000 square foot canopies. The Site also has numerous smaller industrial features including a sump, a synthetic gas flaring system, and a small pump house.

Currently, there are no authorized commercial activities at the Site. A portion of the Site is fenced, and the new property owners have blocked driveways with concrete barriers to prevent automobile access. In spite of this, there are multiple weak points with only a chain restricting access. Most of the hazardous waste sits in structures that can neither be fully secured nor provide any secondary containment.

Stormwater on Site either infiltrates directly to groundwater or flows over land to depressions, off-site or into one of three small stormwater ponds. Historically when either of the two smaller ponds became overwhelmed with stormwater, facility managers would pump water into the largest stormwater pond. Overflow from the largest pond can migrate off-site through a stormwater ditch west along Highway 508 for a few hundred feet before discharging to Gheer Creek. During the January 21, 2021 site visit, water was actively flowing down this ditch even though it was a clear day with no precipitation. Sediment in the largest pond also appeared to be black in color and did not match native soil nearby.

While there are no directly affected Tribal lands in the immediate vicinity, EPA is coordinating with the Department of Interior to determine which tribes have Usual and Accustomed rights areas in the vicinity of the Site.

According to U.S. Fish and Wildlife Service, there are multiple federally listed threatened species within a 5-mile radius of this Site. The threatened species are the Gray Wolf, the Marbled Murrelet, the Streaked Horned Lark, the Yellow-billed Cuckoo, and the Bull Trout. There are also multiple birds protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act that are known to utilize the surrounding area of the Site. The protected migratory birds include the Bald Eagle, the Great Blue Heron, the Olive-sided Flycatcher, the Rufous Hummingbird, the Western Screech-owl, and the Whimbrel.<sup>19</sup>

Gheer Creek supports native runs of chinook salmon along with stocks of hatchery-produced coho salmon, and steelhead. Gheer Creek specifically serves as rearing habitat for juvenile coho and steelhead raised by an aquaculture technical program at Onalaska High School in cooperation with the Chehalis

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<sup>19</sup> U.S. Fish & Wildlife Service IPaC Resource List – Lewis County. April 26, 2021.

Basin Fisheries Task Force.<sup>20,21</sup> None of these local populations are included as part of evolutionarily significant units that are listed as threatened or endangered under the Endangered Species Act,<sup>22</sup> however the State of Washington has made significant investments in restoring aquatic species habitat in this watershed. Furthermore, in 2016 the State of Washington created a brand-new sub-agency, the Office of Chehalis Basin, dedicated to improving watershed conditions in this basin.<sup>23</sup>

No previous removal actions pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) have occurred at this Site to date.

#### **4. Release or threatened release into the environment of a hazardous substance, or pollutant or contaminant**

The substances known to be on-site include wood vinegar and wood tar. Wood vinegar contains acetic acid and formic acid, as well as 2-butanone (MEK), benzoic acid, 2,4-dimethylphenol, 2-methylphenol and 4-methylphenol. Wood tar contains benzene, 2,4-dimethylphenol, trimethylbenzene, 2-butanone (MEK), m,p-xylenes, naphthalene, styrene, toluene, and phenol. These substances are hazardous substances, pollutants, or contaminants as defined by Sections 101(14) and 101(33) of CERCLA, 42 U.S.C. § 9601(14) and (33). The concentrations of primary contaminants in wood tar and wood vinegar designate the material as characteristic RCRA Hazardous Waste for toxicity. Other hazardous substances may also be on-Site.

Approximately 100,000 gallons of hazardous waste has been left behind at the Site by previous operators. The majority of waste is being stored in 275-gallon poly totes in unsecured parts of the Site, in buildings that have shown a lack of structural integrity, and with no secondary containment. In the six weeks prior to EPA's first site visit, two separate fires were reported at the Site. Past releases of wood vinegar and wood tar from the Site have migrated off-site and into the neighboring County wastewater treatment plant. It is also believed that liquid waste has migrated over the ground surface into stormwater ponds and off-site into Gheer Creek, a vital tributary for the rearing of salmon and steelhead. Any additional fire or structural collapse events affecting remaining buildings could result in the release of tens of thousands of gallons of hazardous substances, creating health risks to workers, nearby residents, and first responders. Migration of contaminants off-Site could impact local infrastructure and aquatic ecological communities. A fire could inundate residents of this valley with smoke containing known carcinogens.

#### **5. NPL status**

The Site is not listed on the National Priorities List (NPL) nor has it been proposed for listing.

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<sup>20</sup> Salmon and Steelhead Habitat Limiting Factors: Chehalis Basin and Nearby Drainages Water Resource Inventory Areas 22 And 2. Washington State Conservation Commission Final Report. May 2001.

[https://salishsearestoration.org/images/8/8c/Smith\\_%26\\_Wengar\\_2001\\_chehalis\\_basin\\_salmonid\\_limiting\\_factors.pdf](https://salishsearestoration.org/images/8/8c/Smith_%26_Wengar_2001_chehalis_basin_salmonid_limiting_factors.pdf)

<sup>21</sup> Lewis County aquaculture students raise thousands of steelhead, coho salmon to be released into local waterways. Seattle Times. April 3, 2021. <https://www.seattletimes.com/seattle-news/northwest/lewis-county-aquaculture-students-raise-thousands-of-steelhead-coho-salmon-to-be-released-into-local-waterways/>

<sup>22</sup> [https://www.fisheries.noaa.gov/west-coast/consultations/esa-section-7-consultations-west-coast#washington-coast-and-columbia-river-\(lower\)](https://www.fisheries.noaa.gov/west-coast/consultations/esa-section-7-consultations-west-coast#washington-coast-and-columbia-river-(lower))

<sup>23</sup> Mike Scharpf, District Biologist, Washington Department of Fish & Wildlife. Personal communication. May 5, 2021.



## 6. Maps, pictures, and other graphic representations

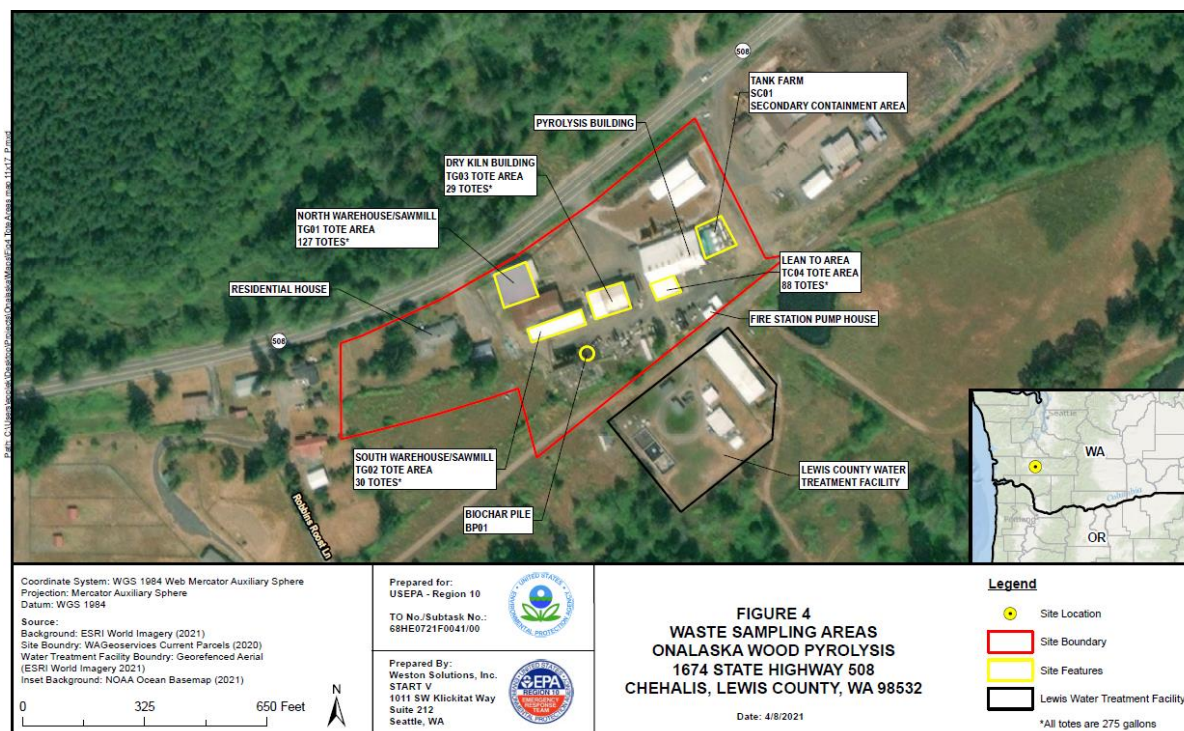


Figure 1: Building map of the Site.



Figure 2: Various sized containers of wood tar and wood vinegar waste in the former warehouse/sawmill building.





*Figure 3: Totes containing an estimated 24,000 gallons of waste located under the Lean-To with no security or secondary containment.*



*Figure 4: Wood vinegar and wood tar accumulated within secondary containment observed by Ecology during a 2017 inspection.*





*Figure 5: Staining along containment sidewalls observed by EPA in 2021 suggests the potential for releases of hazardous substances from overflow and cracks in the walls.*



*Figure 6: Totes containing 43,675 gallons of hazardous substances stored in the structurally unsound sawmill building days before it collapsed. Two key areas of concern to the Lewis County Building Official are circled in red.*

## **B. Other Actions to Date**

### **1. Previous Actions**

**January 21, 2021** – EPA attended initial site walk with Ecology representatives and received a formal request for assistance.

**February 17, 2021** – EPA attended site meeting with property owners, Ecology representatives, and former plant manager.

**March 9, 2021** – EPA, with ERRS and Superfund Assessment and Technical Response Team (START) contractors, conducted site meeting with Lewis County Fire Marshal and Building Official, Lewis County Water District officials, and Ecology representatives; retrieved initial sampling of tote waste from four locations.

**April 21, 2021** – EPA, with ERRS and START contractors, conducted site meeting with Ecology representatives, property owners and their legal counsel, and EPA legal counsel; EPA conducted additional sampling of lean-to tote waste and secondary containment liquids.

### **2. Current actions**

Neither State or local authorities nor the property owners have the ability to characterize and dispose of contaminated source material directly. EPA is coordinating with Ecology to ensure that the planned Removal Action is supportive of the long-term site management approach taken by these agencies.

## **C. State and Local Authorities' Roles**

### **1. State and local actions to date**

**June 14, 2017** – Onalaska Wood Energy Site was listed on Ecology's Confirmed and Suspected Contaminated Sites List.

**August 12, 2020** – Ecology Hazardous Waste and Toxics Reduction Program (HWTR) Document Request sent to CJC for copies of the company's business license, current and accurate inventory of waste being stored at the Site, information about process upgrades, with particular focus on the tank farm and leaking secondary containment, and analytical data for the waste at the Site. None of this requested information was provided by CJC.

**August 27, 2020** – Ecology HWTR conducted a complaint investigation and focused inspection at the Site. Ecology HWTR observed violations of the state Dangerous Waste Regulations (WAC 173-303).

**September 16, 2020** – Ecology HWTR issued a Notice to Comply to CJC on September 16, 2020; citing violations of the conditions for exemption for large quantity generators and directed that CJC take certain actions to safely manage and dispose of the dangerous waste at the Site.

**September 29, 2020** – Ecology HWTR conducted a follow-up inspection with verbal and email directions concerning risks at the Site and the requirement that all dangerous waste was disposed by

November 27, 2020 (90 days after the first Site inspection).

**January 21, 2021** – Ecology HWTR conducted a focused inspection to assess current conditions at the Site.

**January 28, 2021** – Ecology requested help from EPA Region 10's Spill Prevention Assessment and Removal Section.

**February 22, 2021** – Ecology issued Administrative Order #19634 to Carl DiPiazza of CJC, the previous plant manager, and the current property owners.

**April 8, 2021** – Ecology issued an Order to the current property owners granting a joint motion to stay Order #19634 to allow time for the property owners to cooperate with EPA on the removal of hazardous waste.

## **2. Potential for continued State/local response**

The Site is currently in the State cleanup program under MTCA.<sup>24</sup> EPA has initiated discussions with Ecology to delineate actions EPA will take under CERCLA removal authority and what role Ecology will have under MTCA authority in conducting or overseeing longer-term cleanup of soil and sediment that may be needed.

### **III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES**

The current conditions at this Site meet the following factors which indicate that the Site is a threat to the public health or welfare or the environment, and a removal action is appropriate under Section 300.415(b)(2) of the NCP.

#### **1. Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants (40 C.F.R. § 300.415(b)(2)(i)).**

The conditions at the Site have created at least three potential exposure pathways to human populations, animals, and the food chain: (1) on-site exposure; (2) off-site migration through large-scale spills traveling over land or in stormwater; and (3) off-site migration of contaminants in smoke from a fire. A large-scale release of the liquid waste on-site has the potential to create unsafe conditions on-site to facility operators or responders not equipped with proper personal protective equipment.

#### **2. Actual or potential contamination of drinking water supplies or sensitive ecosystems (40 C.F.R. § 300.415(b)(2)(ii)).**

A release from the Site could have a large impact on the Lewis County Water District #2 wastewater treatment facility located on adjacent property which serves over 800 full-time residents of Onalaska, the local fire department and medical clinic, over a dozen small businesses, and approximately 1,000 staff and students at three local public schools, many of whom come into Onalaska from outside the

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<sup>24</sup> <https://apps.ecology.wa.gov/gsp/Sitepage.aspx?csid=13318>

district each week.

There are concerns that a large-scale release could have direct impacts to surface water; stormwater from the Site discharges directly into Gheer Creek which is a home to chinook salmon, coho salmon, and steelhead. Gheer Creek specifically serves as rearing habitat for juvenile coho salmon and steelhead raised by a high school aquaculture program supported by the Chehalis Basin Fisheries Task Force.

Finally, the Site sits above a Critical Aquifer Recharge Area and is directly adjacent to a wetland.

**3. Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release (40 C.F.R. § 300.415(b)(2)(iii)).**

EPA observed approximately 280 poly totes (275 gallons each) containing varying levels of wood vinegar mixed with wood tar. Most of these containers are in unsecured buildings and provide no secondary containment to help prevent a release into the environment in the event of an accidental release of liquid waste from totes. EPA also observed three 8,000-gallon ASTs adjacent to the pyrolysis building that are estimated to contain a combined 8,000 gallons of processed wood vinegar and wood tar, and multiple additional containers with these byproducts of wood pyrolysis. While the ASTs are surrounded by a concrete secondary containment structure, it currently holds approximately 15,000 gallons of liquid hazardous waste, it is not maintained, and it is currently at risk of breaching.

Wood tar contains several CERCLA hazardous substances and is designated as a D018 characteristic RCRA hazardous waste due to its elevated concentrations of benzene. Wood vinegar contains several CERCLA hazardous substances and is designated as a D023 and D024 characteristic RCRA hazardous waste due to its elevated concentrations of 2-Methylphenol (o-cresol) and 4-methylphenol (p-cresol).

**4. High levels of hazardous substances or pollutants in soils largely at or near the surface that may migrate (40 C.F.R. § 300.415(b)(2)(iv)).**

Visual staining of the soils in the area surrounding the secondary containment indicates that the walls of the secondary containment have been breached due to rain or other causes. Based on formal complaints and letters provided by Lewis County Water District #2 to Ecology there is reason to believe that poor past management of hazardous waste on the Site may have exposed surface soils in several areas of the property to contaminants from wood tar and wood vinegar including VOCs and SVOCs. Contaminants in surface soils would have likely migrated during storm events into stormwater ponds, which then discharge to Gheer Creek, a tributary of the South Fork of the Newaukum River. Infiltration of contaminants in surface soils is also a concern, particularly given that the Site resides above a Critical Aquifer Recharge Area. By removing source material, EPA will be preventing any continued releases to surface soils and allow Ecology's Toxic Cleanup Program to work with property owners to manage any existing soil contamination that may still be present from past releases.

**5. Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released (40 C.F.R. § 300.415(b)(2)(v)).**

Heavy rains and snowfall over the past year have contributed to the partial collapse of the roof on a portion of the warehouse where the totes had been stored only days prior to the event. It is unclear



whether other structural issues could lead to damage to totes and large-scale release of the wood tar and wood vinegar they contain. Large amounts of rain could compromise the concrete secondary containment area and lead to contamination migrating from secondary containment to the Lewis County wastewater treatment plant and Gheer Creek.

**6. Threat of fire or explosion (40 C.F.R. § 300.415(b)(2)(vi)).**

During the RSE EPA heard from the Lewis County Fire Marshal that the large amount of sawdust present on the Site and the lack of water service on the facility created added risk of fire. The local fire department has responded to two recent fire incidents at the Site – once when a forklift leaking fuels onto sawdust material experienced an electrical short which threw a spark igniting the wood waste. A few weeks prior a separate fire occurred within the production line of the pyrolysis plant when friction ignited the charcoal product. Uncontrolled fires coming in contact with the hazardous waste could lead to unknown amounts of carcinogens being released into the air and impact any residents, students, and workers in the South Newaukum Valley.

**7. The availability of other appropriate federal or state response mechanisms to respond to the release (40 C.F.R. § 300.415(b)(2)(vii)).**

Ecology has stated that it does not have authority or resources to address immediate threats of release in a time-critical fashion. In a January 26, 2021 letter to EPA, Ecology formally requested EPA’s assistance to perform an “emergency removal action” to address hazardous waste stored at the Site. EPA is working cooperatively with Ecology to use all of the available and appropriate regulatory tools in order to ensure threats from the release of hazardous substances are properly mitigated within appropriate timeframes.

The current owners of the Site have attempted to restrict access to the property. However, they have observed trespassing and unauthorized work performed on the property. With no means to restrict access completely, there is no way to ensure that the waste can be considered stable and not tampered with until it is removed.

**IV. ENDANGERMENT DETERMINATION**

Actual or threatened releases of hazardous substances from this site, may present an imminent and substantial endangerment to public health, or welfare, or the environment.

**V. EXEMPTION FROM STATUTORY LIMITS**

This proposed Removal Action does not require any exemption from statutory limits.

**VI. PROPOSED ACTIONS AND ESTIMATED COSTS**

**A. Proposed Action**

**1. Proposed Action Description**

**a. Consolidation and disposal of liquid hazardous waste**

The majority of contaminated liquids will be pumped out of the totes, ASTs, and secondary containment and bulk-transported in properly placarded 5,000-gallon vacuum trucks or tanker trucks to an appropriate disposal facility.

b. Consolidation and disposal of solid hazardous waste

After totes and other vessels have been decanted of liquids, the remaining solid tar material in totes, ASTs, and containment will be solidified using available sawdust material on site, loaded into one to one and a half cubic yard “wrangler” boxes designed to handle hazardous waste. This boxed material will be staged and transported on placarded trucks to an appropriate disposal facility. The leftover empty totes and ASTs will be crushed for disposal as non-regulated solid waste. The containment area will be decontaminated of tar residue and left with valves open to prevent the continued accumulation of rainwater.

c. Assessment and characterization of known and suspected hazardous wastes

There are an estimated 150 containers of unknown origin stored behind totes in the dry kiln building that EPA was previously unable to safely access. Any uncategorized containers will be assessed using field analytical techniques to properly categorize the contents for disposal. Containers confirmed through field analytical procedures to contain hazardous waste will be segregated by Department of Transportation class, bulked in overpack containers, labeled, and transported off-Site to an appropriate hazardous waste disposal facility on placarded trucks.

d. Post-Removal Site Controls

Due to the scope of removal activities planned for the Site, post-removal site controls are not anticipated.

The Site is not listed or proposed to be listed on the National Priorities List. The work described in this Action Memorandum should not impede any future removal or remedial activities at the Site.

## **2. Description of alternative technologies**

There are no viable alternative technologies that have been identified for the Site. After extensive investigation into potential on-Site treatment of wood vinegar and wood tar, it was determined that no viable methodology exists.

## **3. Engineering Evaluation/Cost Analysis (EE/CA)**

This proposed action is for time-critical removal action, and an EE/CA therefore is not required.

## **4. Applicable or relevant and appropriate requirements (ARARs)**

Removal actions conducted under CERCLA are required to attain applicable or relevant and appropriate requirements (ARARs) to the extent practicable. In determining whether compliance with ARARs is

practicable, the On-Scene Coordinator may consider appropriate factors, including the urgency of the situation and the scope of the removal action to be conducted. EPA also requested a list of ARARs from the State of Washington. EPA has developed the following list of ARARs and the removal action will comply with these ARARs to the extent practicable.

#### FEDERAL ARARs

**Resource Conservation and Recovery Act, Subtitle C - Hazardous Waste Management (42 U.S.C. § 6901; 40 C.F.R. Parts 260 to 279).** Hazardous waste regulations in Subtitle C of RCRA specify hazardous waste identification, management, and disposal requirements. Because the State of Washington is authorized to operate its state hazardous waste program, the Hazardous Waste Management Act (RCW 70.105) and its Dangerous Waste Regulations codified in the Washington Administrative Code (WAC), Chapter 173-303, in lieu of the federal RCRA program. Given the status of the state authorization in Washington, it is unlikely that federal RCRA regulations will apply; however, should new information be made available regarding the wastes at the Site, EPA will reassess whether federal RCRA regulations should be designated as ARARs.

**Clean Water Act (CWA), 33 U.S.C. § 1342.** The National Pollution Discharge Elimination System (NPDES) requires permits for discharge of stormwater. The State Department of Ecology has been delegated the authority under the CWA to carry out the NPDES program in the State of Washington. If response activities at the Site involve clearing, grading, excavating, or other response activities that will disturb more than one acre of land resulting in storm water discharges, such activities should comply with the substantive requirements for a Construction Stormwater General Permit to prevent or minimize the discharge of pollutants in storm water runoff from the disturbed areas to waters of the United States.

**Endangered Species Act (ESA), (16 U.S.C. §§ 1531 – 1544; 50 CFR Parts 17, 402.** The ESA protects species of fish, wildlife, and plants that are listed as threatened or endangered with extinction. It also protects designated critical habitat for listed species. The Act outlines procedures for federal agencies to follow when taking actions that may jeopardize listed species, including consultation with resource agencies. Although not anticipated, the substantive requirements of this Act are potentially applicable to the Site since listed threatened or endangered species habitat areas will, or could, be impacted by the response action.

**Migratory Bird Treaty Act (MBTA), (16 U.S.C. §§ 703 *et seq.*).** The MBTA makes it unlawful to “hunt, take, capture, kill” or undertake various other actions adversely affecting a broad range of migratory birds without prior approval by the U.S. Fish and Wildlife Service. EPA conducted an evaluation of the area and determined that there are also multiple birds protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act that are known to utilize the surrounding area of the Site. Protected migratory birds include the Bald Eagle, the Great Blue Heron, the Olive-sided Flycatcher, the Rufous Hummingbird, the Western Screech-owl, and the Whimbrel. While potentially present in the surrounding area, there are no known migratory birds likely to be in the direct vicinity of the Site due to its industrial setting.

**National Historic Preservation Act (NHPA), (16 U.S.C. § 470f, 36 C.F.R. §§ 60, 63, and 800).**

Section 106 of the NHPA requires that federal agencies take into account the effects of their undertakings on historic properties and seek ways to avoid, minimize, or mitigate any adverse effects on those properties. The Section 106 process seeks to accommodate historic preservation concerns with the needs of federal undertakings through consultation among the agency official and affected parties, commencing at the early stages of project planning. While formal consultation with the State Historic Preservation Officer (SHPO) is considered by EPA to be an administrative, rather than substantive, element of the NHPA, EPA has engaged the SHPO on the planned removal activities. EPA does not expect to impact any structures or subsurface resources during this Removal Action.

**STATE ARARs**

**Hazardous Waste Management Act and Dangerous Waste Regulations, (RCW 70.105, Chapter 173-303 WAC).** The Act and regulations address the handling and disposition of dangerous waste, including identification, accumulation, storage, transport, treatment, and disposal.

- a. WAC 173-303-070 addresses the process for determining whether a waste is dangerous or extremely hazardous.
- b. WAC 173-303-141 addresses treatment, storage, and disposal of dangerous waste.
- c. WAC 173-303-145 addresses spills and discharges into the environment.
- d. WAC 173-303-160 addresses containers
- e. WAC 173-303-170 addresses notification and manifesting of waste.
- f. WAC 173-303-190 addresses preparing dangerous waste for transport.

**Solid Waste Handling Standards, (Chapter 173-350 WAC).** The Solid Waste Handling Standards apply to management of solid waste. The regulations set minimum functional performance standards for proper handling and disposal of solid waste, describe responsibilities of various entities, and set requirements for solid waste handling facilities.

**General Regulations for Air Pollution Sources, (Chapter 173-400 WAC).** These regulations establish technically feasible and reasonably attainable standards to control or prevent the emission of air contaminants. There is the potential to generate fugitive dust during the Removal Action which can be addressed by the precautions to prevent fugitive dust from becoming airborne and the requirements to maintain and operate the source to minimize emissions standards in WAC 173-400-040(9).

## **5. Project Schedule**

It is expected that project implementation will begin in late June 2021 and will take three to four weeks to complete.

## **B. Estimated Costs**

The EPA estimated extramural costs are shown below.

Emergency and Rapid Response Services (ERRS)	\$712,202
Superfund Technical Assessment and Response Team (START)	\$ 88,548
Contingency (10%)	\$ 80,075
Total Removal Action Project Ceiling	\$880,825

Direct costs include direct extramural costs and direct intramural costs. Indirect costs are calculated based on an estimated indirect cost rate expressed as a percentage of site-specific direct costs, consistent with the full cost accounting methodology effective 2 October 2000. These estimates do not include pre-Judgment interest, do not take into account other enforcement costs, including Department of Justice costs, and may be adjusted during the course of a removal action. The estimates are for illustration purposes only and their use is not intended to create any rights for responsible parties. Neither the lack of a total cost estimate nor deviation of actual total costs from this estimate will affect the United States' right to cost recovery.

## **VII. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN**

If the proposed removal action should be delayed or not taken large quantities of liquid hazardous substances will remain as potential human health and ecological threats. With conditions of containers and buildings showing evidence of deterioration, risk of release will increase over time. Additionally, it is currently unknown whether hazardous substances are migrating from source material to groundwater.

## **VIII. OUTSTANDING POLICY ISSUES**

None.

## **IX. ENFORCEMENT**

See the attached "Confidential Enforcement Addendum" for enforcement details.

## **X. RECOMMENDATION**

This decision document represents the selected removal action for the Onalaska Wood Pyrolysis Site, located at 1674 State Hwy 508, Chehalis, Lewis County, Washington, developed in accordance with CERCLA as amended, and not inconsistent with the NCP. This decision is based on the administrative record for the Site.



Conditions at the Onalaska Wood Pyrolysis Site meet the NCP Section 300.415(b)(2) criteria for a removal and I recommend your approval of the proposed removal action. The total project ceiling if approved will be \$880,825. Of this, as much as \$880,825 comes from the Regional Removal Allowance.

**XI. APPROVAL / DISAPPROVAL**

APPROVAL

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Calvin Terada, Director  
Superfund and Emergency Management Division

DISAPPROVAL

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Calvin Terada, Director  
Superfund and Emergency Management Division