



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region III
1650 Arch St.
Philadelphia, PA 19103

Date: July 28, 2015

Subject: Recommendation for Determination of Imminent and Substantial Endangerment to Public Health or Welfare or the Environment at the New Kent Wood Preservatives, Inc. Site

From: Ruth Scharr, Federal On-Scene Coordinator
Eastern Response Branch (3HS31) *R. Scharr*

To: Bonnie G. Gross, Associate Director
Office of Preparedness and Response (3HS30)

1. Site Name and Location:

New Kent Wood Preservatives, Inc. Site
4101 South Mountcastle Road
Providence Forge, New Kent County, Virginia

2. Owner/Operator:

The facility that is the subject of this Determination of Imminent and Substantial Endangerment to Public Health or Welfare or the Environment is owned by L-Woods, Inc. Southern Pine Specialists.

3. Population Information/Area Description:

The New Kent Wood Preservatives, Inc. Site (Site) is located in the community of Providence Forge, Virginia. The Site is located in a rural area of New Kent County. Directly adjacent to the Site to the north is undeveloped forested land and wetlands, to the east are wetlands, to the south are active railroad tracks, and to the west is South Mountcastle Road. The nearest surface water is an unnamed tributary of Schiminoe Creek, located to the north and east of the Site approximately 300 feet from the property fence line. The unnamed tributary flows north through the wetlands that border the Site and converges with Schiminoe Creek just upstream of the railroad tracks. Crawford State Forest is located 0.24 miles southeast of the Site. The following table provides the surrounding population as of 2012. The entire population within 4 miles relies on groundwater for its potable water supply.

POPULATION WITHIN 4 MILES OF SITE	
Radial Distance from Site (miles)	Population (number of persons)
0.00 - 0.25	0
0.25 - 0.50	32
0.50 - 1.0	159
1.0 - 2.0	397
2.0 - 3.0	750
3.0 - 4.0	1,880

4. Access:

Access is restricted, as the property is surrounded by a fence on the east, north, and south sides, and there is a locking gate in the driveway on the west side which restricts access to the Site. On the east side of the Site, the fence is located approximately 30 feet west of the property line.

5. Coordination with Other Authorities:

The Federal On-Scene Coordinator (OSC) continues to coordinate activities between the EPA Removal Program, EPA Site Assessment Program, the Virginia Department of Environmental Quality, and the New Kent County Engineering office. The EPA Biological Technical Assistance Group (BTAG) has also assisted.

State contact: Devlin Harris, (804) 698-4226

Local contact: Matthew Veneable, (804) 966-9686

6. Site Characteristics:

The Site is located in Providence Forge, New Kent County, Virginia, in an area with a mixture of industrial use and undeveloped land. The approximate geographic coordinates of the Site are 37.454° north latitude and 77.091° west longitude. The Site is located approximately 1,500 feet south of the intersection of Route 60 and Route 615.

The Site is currently occupied by two active businesses: McNeil Sales & Service Inc., providing refractory supplies and services, and Museum Resources, providing construction, design, and millwork services for historic sites, private owners, and commercial buildings. Their offices are located in the former treatment building. The former primary drip pad is now used to store supplies used by the refractory business. Two sheds are located north of the former treatment building and primary drip pad. These sheds are currently used by Museum Resources for wood cutting. A secondary drip pad was located just beyond the primary drip pad on the southeast side of the Site. Currently this area is under a roof and is used to store untreated wood.

Two drainage features located on the eastern side of the former primary drip pad direct surface runoff water from the Site into the wetlands to the east. A third drainage feature emanates from the northeast corner along the fence line. This depression, which is less pronounced than the other noted features, also drains to the east and any surface flow would ultimately follow topography and drain to the stream/wetland complex to the east. A fourth drainage ditch located on the northern side of the former treatment area (adjacent to the primary drip pad) directs surface runoff water from the Site into the unnamed tributary of Schiminoe Creek. See attached Figure 1 - Site Layout Map.

7. Hazardous Substances Present:

Historical operations at the Site include treatment of lumber with chromated copper arsenate (CCA) from 1977 to the late 1990s. Elevated concentrations of copper, chromium, and arsenic have been documented in Site soils and in the nearby wetlands. Chromium, copper, and arsenic are listed hazardous substances under 40 CFR § 302.4.

Surface soil samples collected in the past year from the area surrounding the former process area, which includes soil areas around the former primary drip pad, the former treatment building, and the former secondary drip pad, and from the three main drainage ditches have identified concentrations of arsenic as high as 1,140 mg/kg, chromium as high as 1,480 mg/kg, and copper as high as 1,040 mg/kg.

Sediment samples collected from the wetlands surrounding the Site identified arsenic concentrations as high as 504 mg/kg, chromium as high as 764 mg/kg, and copper as high as 362 mg/kg.

The OSC estimates the impacted soil in and around the former process area covers roughly 1.25 acres. The depth of contamination in the former process area has not been fully delineated. A limited number of samples were collected from the 12 inch to 18 inch interval in close proximity to the former process area. Contamination was detected above the Site cleanup levels at the 18 inch interval. Conservatively estimating that the soil will be contaminated to 24 inches below the surface, then approximately 4,000 cubic yards of contaminated soil may be present onsite in the former process area. The amount of contaminated soil within the three main drainage ditches (marked on Figure 1) is also unknown. Conservatively estimating that the soil in each of those drainage ditches is contaminated to a depth of 24 inches and the span of each drainage feature is 4 feet wide and 300 feet long, then approximately 266.67 cubic yards of contaminated soil may be present in the three main drainage ditches combined.

8. Threat to the Public Health or Welfare or the Environment (40 CFR Section 300.415):

- **300.415(b)(2)(i) Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants.**

Heavy metals associated with historical operations at the Site, including copper, chromium, and arsenic, have been documented in the surface soils of the Site, the drainage features, and the nearby wetlands. The levels of hazardous substances in the onsite soils present a potential unacceptable human health risk to onsite workers over a 25 year long-term exposure period. The levels and the extent of the contamination present in the onsite soils and the drainage features present a potential ecological risk primarily to avian and mammalian receptors. The metals concentrations detected in the soil at the Site may result in negative impacts on growth and reproduction of Site vegetation, birds, and small mammals. The continued migration of heavy metals into the wetlands and the tributary of Schiminoe Creek may potentially impact wildlife habitats immediately surrounding the Site. Concentrations of the metals detected in wetland water and sediments can negatively impact aquatic invertebrates, an important component of the aquatic food chain, and may lead to organ damage, growth depression, food avoidance, and impaired feeding efficiency in fish.

- **300.415(b)(2)(ii) Actual or potential contamination of drinking water supplies or sensitive ecosystems.**

Residents in the area depend solely on groundwater for potable use. Analysis of drinking water samples collected from the vicinity indicates that potable wells are not currently impacted by the Site.

Drainage ditches at the Site provide a pathway for heavy metals located onsite to migrate into wetlands immediately surrounding the Site and to the tributary of Schiminoe Creek. Wetlands are a sensitive ecosystem. EPA collected thirteen sediment samples from the noninundated wetland areas bordering the Site, including a duplicate. Three background samples were collected to document conditions not potentially impacted by the source areas. In addition, EPA collected fifteen pairs of co-located surface water and sediment samples from the inundated wetlands, the unnamed tributary, and Schiminoe Creek, including three locations upstream of source areas to document background conditions. Contaminant concentrations detected for arsenic, chromium, and copper were compared to the EPA Region 3 BTAG Freshwater Sediment Screening Benchmarks (EPA BTAG Levels). The EPA BTAG Levels for arsenic, chromium, and copper are 9.8 mg/kg, 43.4 mg/kg, and 31.6 mg/kg, respectively.

Noninundated Wetland Sediment Samples:

Eight of the thirteen noninundated wetland samples contained concentrations of arsenic exceeding the EPA BTAG Level of 9.8 mg/kg, ranging from 12.5 mg/kg to 504 mg/kg; five of the noninundated wetland sediment samples contained concentrations of chromium exceeding the EPA BTAG Level of 43.4 mg/kg, ranging from 43.6 mg/kg to 764 mg/kg; and five of the noninundated wetland sediment samples contained concentrations of copper exceeding the EPA BTAG Level of 31.6 mg/kg, ranging from 35.5 mg/kg to 362 mg/kg.

Inundated Wetland Sediment Samples:

Two of the fifteen inundated wetland sediment samples contained concentrations of arsenic exceeding the EPA BTAG Level of 9.8 mg/kg; one inundated wetland sediment sample contained concentrations of chromium exceeding the EPA BTAG Level of 43.4 mg/kg; and none of the inundated wetland sediment samples contained concentrations of copper exceeding the EPA BTAG Level of 31.6 mg/kg.

- **300.415(b)(2)(iv) High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate.**

Surface soils at the Site contain concentrations of arsenic and chromium which exceed EPA's Regional Screening Levels at a 1E-05 cancer risk for Residential and Industrial Soil. Surface soils also exceed the EPA Ecological Soil Screening Levels for arsenic, trivalent chromium, and copper by more than an order of magnitude.

- **300.415(b)(2)(v) Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released.**

During precipitation events at the Site, Site surface water runoff travels through the eastern drainage features directly into the surrounding wetlands and then to a tributary of Schiminoe Creek, and the northern drainage feature directs surface water runoff directly into an unnamed tributary of Schiminoe Creek. During precipitation events, surface water runoff may continue to transport surface soils at the Site contaminated with heavy metals offsite into these habitats, impacting ecological receptors.

- **300.415(b)(2)(vii) The availability of other appropriate federal or state response mechanisms to respond to the release.**

The Virginia Department of Environmental Quality (VADEQ) has requested EPA assistance with the New Kent Wood Preservatives, Inc. Site, as VADEQ does not have resources currently available to perform a removal action. No other federal or state response mechanisms are currently available to perform the actions necessary to mitigate the threats to the public health and the environment presented by the release and threatened release of hazardous substances, pollutants, and contaminants.

9. List of Supporting Documents:

1. Final Trip Report – New Kent Wood Preservatives, Inc. February 2015 Removal Assessment, Providence Forge, Virginia, prepared for the U.S. EPA by Weston Solutions, Inc., dated June 2015.
2. Final Trip Report – New Kent Wood Preservatives, Inc. Removal Assessment, Providence Forge, Virginia, prepared for the U.S. EPA by Weston Solutions, Inc., dated February 2015.


3. Final Expanded Site Inspection Report - New Kent Wood Preservatives, Inc., Providence Forge, New Kent County, Virginia, prepared for the U.S. EPA by Weston Solutions, Inc., dated June 2015.
4. Final Site Reassessment Report for the New Kent Wood Preservatives, Inc. Site, prepared for the Virginia Department of Environmental Quality by Blueskies Environmental Associates, Inc., dated May 7, 2012.
5. Memorandum from Dawn Ioven, EPA Toxicologist, to Dawn Fulsher, EPA Environmental Scientist, dated April 15, 2015, Comments on the [Expanded] Site Inspection Report, New Kent Wood Preservative Site.
6. Memorandum from Bruce Pluta, EPA Coordinator, Biological Technical Assistance Group, to Alizabeth Olhasso, Chief, EPA Site Assessment & Non-NPL Federal Facilities Branch, and Ruth Scharr, EPA Federal On-Scene Coordinator, dated April 30, 2015, regarding the New Kent Wood Preservatives, Inc. Site.
7. Regional Screening Levels for Chemical Contaminants at Superfund Sites Table, June 2015, http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm
8. EPA Ecological Soil Screening Levels, <http://www.epa.gov/oswer/riskassessment/ecorisk/ecossl.htm>
9. EPA Region 3 BTAG Freshwater Sediment Screening Benchmarks, <http://www.epa.gov/reg3hwmd/risk/eco/btag/sbv/fwsed/screenbench.htmmarks>

10. Recommendations:

Because conditions at the New Kent Wood Preservatives, Inc. Site meet the NCP criteria for a removal action, I believe that conditions present at the Site may pose an imminent and substantial threat to public health or welfare or the environment. I therefore recommend that you make the required statutory determination that there may be an imminent and substantial endangerment to public health or welfare or the environment.

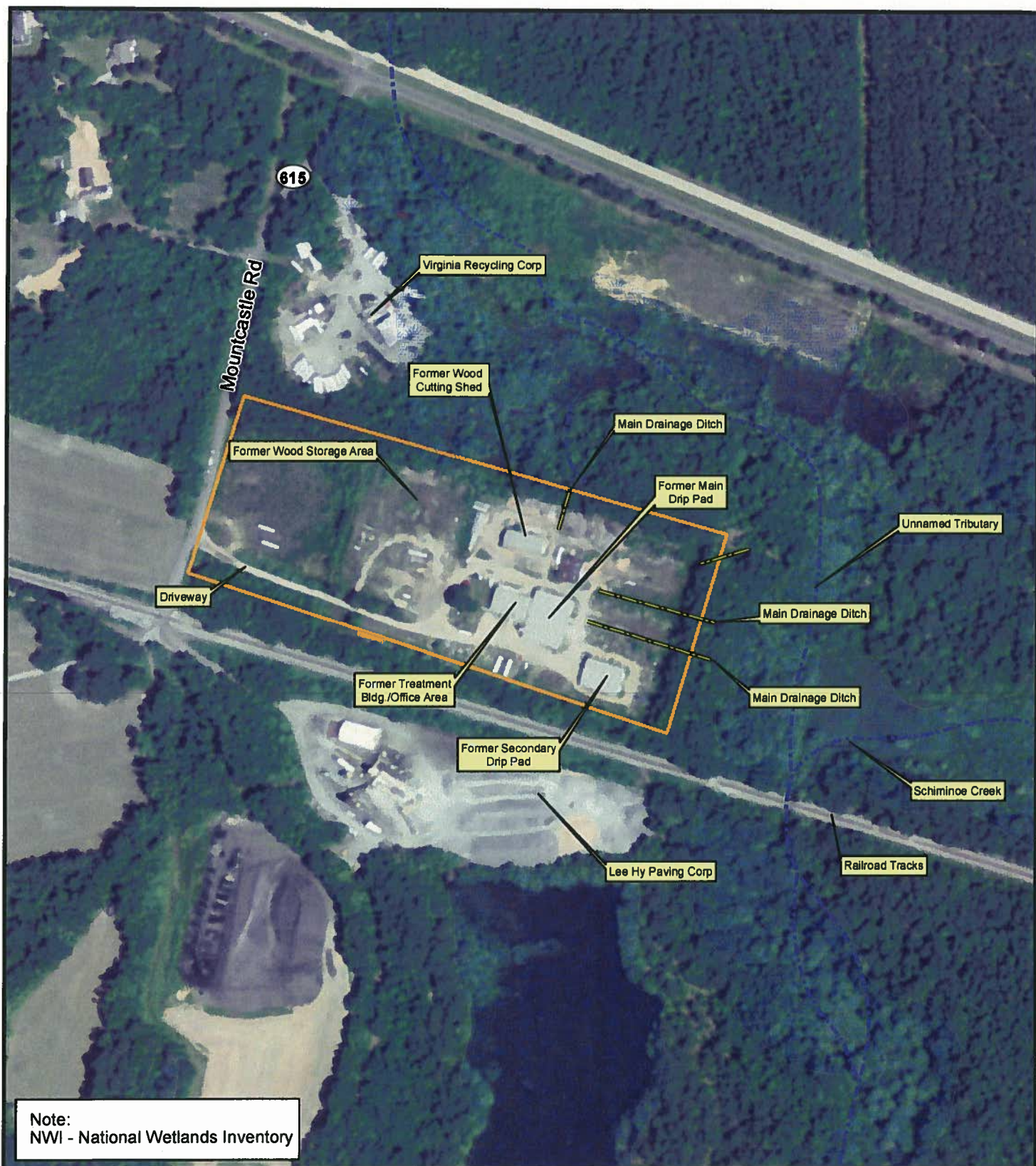
11. Action by the Approving Official:

I have reviewed the above-stated facts and based upon those facts, I hereby determine that the release or threatened release of hazardous substances at and/or from the New Kent Wood Preservatives, Inc. Site poses an imminent and substantial endangerment to the public health or welfare or the environment of the United States.



Bonnie G. Gross, Associate Director
Office of Preparedness and Response
Hazardous Site Cleanup Division

DATE 7/31/15



Legend

- Site Boundary
- NWI Wetlands
- Inferred stream channel from Topographic Map
- Drainage Ditch

Imagery: ESRI, USGS
Mapping Service, 2013



Coordinate System:
WGS84 UTM Zone 18N Feet

0 350
Feet

New Kent Wood Preservatives, Inc
Providence Forge, New Kent County, VA

Figure 1
Site Layout Map

TDD#: WS03-12-09-001
Contract: EP-S3-10-05
Prepared: 7/21/2015

