SF/AR 1.9.2

United States Environmental Protection Agency

Region 10
1200 Sixth Avenue
Seattle, Washington 98101

11 September 2006

Reply To
Attn Of: ECL-116

ACTION MEMORANDUM

SUBJECT: Combined Phase II Removal and $2 Million Exemption Request Special Circumstances Action Memorandum to conduct a Time Critical Removal Action at the Colville Post and Poles Site, Colville, Stevens County, Washington

FROM: Michael Boykin
On-Scene Coordinator

THRU: Chris Field, Manager
Emergency Response Unit

TO: Daniel D. Opalski, Director
Environmental Cleanup Office

I. PURPOSE

The purpose of this action memorandum is to request and document approval of the proposed time-critical removal and a $ 2 million exemption described herein for the Colville Post and Poles Site located in Stevens County, Washington. Colville Post and Poles is a former wood treatment facility that operated from the 1940s through early January 2005. This action meets the criteria for initiating a removal action under the National Contingency Plan (NCP), 40 CFR §300.415.

Previously, a Time-Critical Removal Action was implemented when the owner ceased operations in January 2005. The Removal Action was taken to secure the facility, restrict public access, and stabilize the hazardous materials (sludge, leftover treating solution, wastewater) onsite. This Removal Action is being implemented to primarily address the

historical releases of treating solutions and associated waste products that contaminated the soil with pentachlorophenol, diesel, and dioxins. A second objective is to mitigate the migration of contamination from soil to groundwater. In order to measure the effectiveness of the contaminated soil removal EPA will continue the existing groundwater monitoring program with enhancements such as installing more wells and groundwater modeling. Contamination in groundwater is expected to attenuate with time once the source soils are removed. The quarterly groundwater monitoring/sampling program will continue for another year under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) 104(b) assessment activities.

II. SITE CONDITIONS AND BACKGROUND

A. Site Description

Colville Post and Poles, Inc. (Site) is a 23-acre wood treating facility surrounded by rural and semi-rural properties, located approximately 4 miles northwest of Colville, Washington, population 4,988 (Figure 1). The CERCLIS ID No. is WAN001002608, and the Site ID No. is 10CL. The Site is bordered by the Kettle Falls International Railway, LLC (formerly Burlington Northern Railroad line) and US Highway 395 on the north and by the Delvin Hill property and the Colville River on the south. No known schools or day-care facilities are located adjacent to the site (Figure 2).

The Site was operated as a wood-treating facility from the mid-1940s until January 2005. Lena Ensminger purchased the property in 1940 and owned until she (Lena M. Exley, formerly Lena M. Ensminger) sold it to Clyde and Pearl Shriner in 1946. The Shriners then sold it to Post and Poles, Inc. in 1966. Post and Poles Inc. sold the property to Eugene Spring, Lind (Hap) House and their spouses in 1985. Later, they transferred the property to their corporation, Colville Post and Poles, Inc, the current owner of the property. From 1985 until operations ceased in early January 2005, the Site was owned by Colville Post and Poles, Inc. and operated by Eugene Spring.

The facility is comprised of a Process Area where the majority of day-to-day operations occurred, large open areas to the north and south used to store raw wood, treated wood, and incidental items, and a large triangle-shaped area to the southwest that remains undeveloped and provides a buffer between the Site and the Colville River. Details of the Site layout will be provided in a subsequent section.

The area surrounding the site is sparsely populated with mixed residential, agricultural, and industrial land use. Six households are located within 0.25 miles of the site. The Bonanza Mill Site (EPA ID - WASFN1002221), a former lead and zinc ore mill site with heavy metal contamination concerns, is located adjacent to the east. A removal action was completed at the Bonanza Mill Site during fall of 2002.

Starting in 2002, EPA Resource Conservation and Recovery Act (RCRA) and Spill Prevention, Control, and Countermeasure (SPCC) regulatory inspections, and CERCLA investigations documented historical and ongoing releases to the soil and groundwater, violations of RCRA generator requirements, and identified the lack of adequate spill control measures and an updated SPCC plan. Due to these findings, Colville Post and Poles, Inc. ceased treatment operations at the Site in January 2005, citing an inability to pay for compliance with EPA required facility upgrades, corrective actions, and contamination mitigation.

Currently, the facility is not in operation and the owner has cleared the site and sold most of the equipment, vehicles, treated wood product, untreated lumber, buildings, structures, and salvageable materials. Only the Treatment Building with associated process equipment, boiler building, machine shop, scattered untreated and treated wood, metal and construction debris, and building foundations remain.

1. Removal site evaluation

EPA conducted several phases of a Removal Site Evaluation (RSE). A limited Phase I RSE occurred in October 2002, when the facility was still in operation and EPA RCRA was coordinating with the owner to bring operations into regulatory compliance. The Phase II RSE followed in June 2005 after operations had ceased, data needs were identified, and the site had been stabilized in January 2005. Additional site characterization sampling activities were conducted during the January 2005 preliminary Removal Action.

Elevated concentrations of pentachlorophenol (PCP) and diesel range organics (DRO) were found in surface soil, subsurface soil, shallow groundwater, surface water, and sediments in on-site drainage features. In addition, 2,3,7,8 - polychlorinated dibenzodixons (PCDDs), and polychlorinated dibenzofurans (PCDFs), commonly referred to as dioxins, were found in surface and subsurface soils. The contaminants in many areas and media exceed the State of Washington Model Toxic Control Act (MTCA) Method B cleanup levels for unrestricted land use, and Method B cleanup levels for ground water, and State of Washington Water Quality Standards for surface water, and the U.S. Environmental Protection Agency (EPA) Region 9 Preliminary Remedial Goals (PRGs).

During the January 2005 Phase I Removal Action, environmental samples collected included those requested by the EPA site assessment program for the intended purpose of evaluating the site using the hazard ranking system (HRS). The preliminary HRS site score generated for this site is above 28.50, the threshold for possible listing on EPA's National Priorities List (NPL). In April 2005, site information was presented to the Region 10 Management Review Team for an evaluation of whether to pursue listing the site on the NPL. The Management Review Team agreed to reconvene following further removal activity which may provide additional information on current human health impacts from groundwater contamination at the Site as well as when more information regarding

potentially responsible party viability was obtained. The additional information/data obtained by the removal program and PRP searches has not yet been presented to the Management Review Team.

In order to fill data gaps identified after the Phase I RSE and characterize groundwater contamination, Phase II RSE activities were conducted in June 2005. RSE activities included: installed monitoring well network, geophysics survey to identify potential additional sources, and further characterization of soil and groundwater to determine the extent of contamination. Elevated concentrations of PCP and diesel were confirmed in shallow groundwater with the highest concentrations of PCP-contaminated groundwater near the treatment building and in the northwest section of the site. Further, the original groundwater flow gradient was thought to be trending towards the river, however, groundwater elevation measurements in the new monitoring well network indicated a flow gradient trending to the west. Contaminated groundwater from source soil in the Process Area appears to be migrating to the west across the northwest corner of the site and migrating off-site to the adjacent residences where there is a potential impact to domestic drinking water wells and/or the Colville River. Elevated concentrations of dioxins were also found in several localized surface soil areas on site.

Four site decision areas were identified to facilitate EPA's Phase I and Phase II RSEs and will be used to describe the site from hereafter. The four areas, referred to as the Process Area, North Stockpile Area, South Stockpile Area, and Drainage Area were selected based on observed and potential contamination impacts, land use, sampling strategies, and mitigation options. Data regarding the nature and extent of contamination in the four areas are summarized below.

Process Area

The Process Area covers approximately 1 acre and is located in the center of the site where the majority of wood treatment and maintenance activities occurred. This area includes the treatment building, a machine shop, a small shed housing a boiler, another small shed for storage of PCP blocks, thermal tanks, drip pad system, and current and former above-ground storage tanks (ASTs) locations.

Before it ceased operations in January 2005, the facility used a thermal treatment dip tank and concrete drip pad system to treat mostly fence posts and rails. The treating solution consisted of a 5% pentachlorophenol (PCP) and diesel carrier solution (PCP solution) stored in a series of ASTs. Wood was lowered into the tanks using a motorized overhead crane and forklift for transportation. After treatment, the wood was removed and placed onto a drip pad using a forklift. The PCP solution was allowed to drip off of the treated wood and drain from the pad into the 3,300 gallon main collection sump. The PCP solution was pumped from the main collection sump into a 500-gallon storage tank for recycling. During EPA inspections it was observed that newly treated wood was allowed to drip on

the concrete drip pad which sloped away from the armored section, thereby allowing drippage to occur to the concrete pad and to the adjacent gravel roadway outside of the drip pad containment system.

During the Phase I RSE field work, the two main ASTs were noted to be rusting and in poor condition, resting on treated wood pads. Over the years, the numbers of ASTs and extent of piping varied between seven tanks situated in a tank farm to the most recent arrangement of two 10,000-gallon tanks situated in a poorly constructed secondary containment area adjacent to the treatment building. The lack of adequate secondary containment and the tanks location being approximately 100 feet upgradient from the on-site pond and drainage feature, created a direct migration path to the Colville River should there be a release, thereby constituting a potential imminent threat of release. Remaining sludge and product were removed from the two 10,000-gallon ASTs during the January 2005 removal action and they were rendered unuseable. In addition, all piping between the ASTs and the treatment building were drained and rendered unuseable.

Piping from the ASTs also was in poor condition; access to valves was uncontrolled and leaks with associated soil staining were observed along the pipes. Small plastic swimming pools were observed under piping with excessive dripping. Tanks, pumps, and piping associated with the treatment building were in poor condition and were leaking onto the drip pad. Historically, the PCP solution was mixed in a tank and piped to the 2 thermal treatment tanks situated in the treatment building. Other features in the process included filters, collection sumps and tanks, and return piping to facilitate recovery and recycling of used PCP solution. During the January 2005 removal action, all of the piping, tanks, and sumps in the treatment building were drained of product and wastewater, the wastes sent off-site for treatment/disposal, and the facility was rendered inoperable.

The drip pad system was upgraded several times over the life of the facility, most recently in 2000, when Mr. Spring armored most of the concrete drip pad and sump collection systems by welding together steel plates to reduce PCP solution contaminating the concrete pad and potential migration through cracks and fissures to subsurface soil and groundwater. Previous to the 2000 upgrade, Mr. Spring installed an under-pad drainage system to capture and recycle product and groundwater that infiltrated through the drip pad. Prior to the two upgrades, the existing concrete pads would have been contaminated from spills and drippage and PCP solution penetrated the concrete through cracks, releasing to surface and subsurface soil and to groundwater. To our knowledge, the former contaminated drip pads remain, underlying the present pad.

In 2004, the facility was operating under a SPCC plan developed in 1982. Over the years there had been several major changes to tanks and piping in the facility which the SPCC regulations specify needs to be documented and the SPCC plan updated accordingly. One major modification resulted in the relocation of the PCP solution tank farm from a location southeast of the treatment building to an area northeast of the building with a

reduction in the number and sizes of tanks from seven tanks to 2 tanks. Reportedly, a 10,000-gallon PCP solution tank rupture occurred in 1989, releasing an unspecified amount of PCP solution to the ground in the former tank farm area.

Blueprints associated with the 1982 SPCC plan identify retention or sludge ponds between the drip pad and the boiler location but evidence of their presence was not found during assessments. Anecdotal accounts of historical operations indicate that waste products may have been dumped into these sludge ponds as well as into the adjacent pond that is part of the onsite drainage system. The SPCC plan also mentions that runoff from the undiked areas around the process tanks was directed towards two retention ponds. Residual oils were retained in the ponds after separating from the water. The clear water excess which accumulated in the ponds was alleged to have been pumped to pasture land adjacent to the Process Area. The former retention ponds are believed to be located to the east of the process building.

A machine shop is located east of the treatment building and adjacent to a small pond approximately 60 feet long and 40 feet wide, part of an onsite drainage feature. The building appears to have been used for vehicles and equipment maintenance and a worn path was observed from the back of the machine shop to the edge of the pond. Several small outbuildings, the chamfering building, and a peeler building were observed east of the machine shop.

During site visits and the RSEs, the presence of unlabeled drums and containers of liquid and sludge, stained soil and concrete, stained rags and gloves, and unprotected workers (no booties over street shoes or work boots, and the absence of latex/vinyl gloves while working with treating solution) were observed and indicative of poor housekeeping practices. These poor housekeeping practices led to widespread contamination of surface areas in the process building and the machine shop, and contamination of the concrete drip pad, surface soil, and gravel roadways as a result of drippage and spills throughout the process area.

The Process Area appears to have been built-up with imported fill and road gravel. Limited vegetation, primarily tall grass, is located between buildings and the pond. Soil staining was observed in front of the process building and the machine shop.

In January 2005, EPA conducted Phase I removal activities to stabilize hazardous materials on site. Spent product, waste sludge, wastewater, and debris were removed from the aforementioned ASTs, thermal tanks, sumps and piping and the Process Area facility and equipment was secured, rendered unuseable, and access to the Process Areas was restricted by the installation of a fence.

North Stockpile Area

The North Stockpile Area covers approximately 7 acres located in the northwest corner of the site. It is bordered on the north by US Highway 395 and the Kettle Falls International Railway LLC tracks, on the west by a livestock and hay field, on the south by the main drainage ditch, and on the east by the main drainage ditch and the Process Area.

The North Stockpile Area was used primarily to store untreated timbers, posts, and dimensional lumber, however, some treated wood was observed in the area. Piles of rotten wood and timbers and abandoned mill equipment were also observed in this area. The presence of treated wood in this area suggests that the wood may have been moved and stored here just after being treated and incidental drippage may have occurred on the gravel roadways during transit as well as wherever the treated wood was stored. During EPA RCRA site visits, stained soil and incidental drippage were observed from recently treated wood.

The area appears to have been built-up with imported fill and access roads have been constructed with imported pit-run gravel. Tall grasses were observed in areas between access roads.

South Stockpile Area

The South Stockpile Area covers approximately 8 acres located primarily south and east of the Process Area. It is bordered on the north by US Highway 395 and the Kettle Falls International Railway LLC tracks, on the west by the Process Area and the main drainage ditch, and to the south and east by the Drainage Area. The South Stockpile Area is bisected by a drainage ditch that is part of the Drainage Area.

The South Stockpile Area appears to have been used primarily to store treated timbers, posts, and dimensional lumber, and for disposal of waste bark and sawdust. Piles of rotten wood and timbers and abandoned equipment and vehicles were also observed in this area. Several empty ASTs were observed staged on the south side of the South Stockpile Area. ASTs are likely from the former AST farm located on the east side of the Process Area. The presence of treated wood in this area suggests that the wood may have been moved and stored here just after being treated and incidental drippage may have occurred on the gravel roadways during transit and wherever the treated wood was stored. During EPA RCRA site visits, stained soil and incidental drippage were observed from recently treated wood.

The area does not appear to have been built-up with imported fill. Access roads have been constructed with imported pit-run gravel and a large portion of this area has been filled with waste bark and saw dust. Tall grasses were observed in areas between access roads.

During the Phase I RSE, a soil mound was identified by the owner as a former contaminated soil treatment area in the South Stockpile Area. Reportedly, during one of the owner-directed clean up actions, contaminated soil was excavated from the Process Area and/or former tank farm and placed in a treatment cell to be bio-remediated. The owner indicated that the treatment was never completed and the contaminated soil remains as a mound in the treatment cell.

Drainage Area

The Drainage Area covers approximately 8 acres and consists of two major drainage ditches, and lowlands on the river side of the site. The central ditch begins with a small pond located between the Process Area and South Stockpile Area. The small pond is fed in part with surface water from a culvert that originates on the north boundary of the site near the railroad tracks and traverses the Process Area to the southeast of the treatment building and draining to the pond. Field observations indicate that water appears to flow through the culvert to the pond throughout the year with seasonal fluctuations.

Draining the small pond, the central ditch joins a second drainage ditch approximately 400 feet to the west. Field observations indicate that there are two potential locations where the Drainage Area discharges to the Colville River. Outflow was observed during several field investigations when the Colville River was flooding and there was connectivity between the River and the Site Drainage Area.

2. Physical location

Surrounding Land Use and Distance to Nearest Populations

Colville Post and Poles is located at 369 U.S. Highway 395, Colville, Stevens County, Washington. The site is situated in the northeast ¼ of the northeast ¼, Section 36, Township 36N, Range 38E of the Willamette Meridian (48°34'60" N, 117°57'43" W). The approximate 23-acre facility is located on the outskirts of Colville.

The site is bordered by the Kettle Falls International Railway, LLC. and U.S. Highway 395 on the north and by the Delvin Hill property and the Colville River on the south. The Clowser property, a private residence with pasture land, is situated on the western property line. The Bonanza Mill Site (EPA ID - WASFN1002221), a former lead and zinc ore mill site, is located adjacent to the east. An EPA removal action was completed at the Bonanza Mill site during Fall 2002.

The site is located approximately 4 miles northwest of the town of Colville, population 4,988. The area surrounding the site consists of rural and semi-rural properties, and is sparsely populated with mixed residential, agricultural, and industrial land use. Six households are located within 0.25 miles of the site. No known schools or day-care

facilities are located adjacent to the site.

Vulnerable or Sensitive Populations, Habitats, and Natural Resources

The Colville Post and Poles facility is located in the riparian valley of the Colville River within the 100-year flood plain. The site is mostly flat and lies approximately 5 to10 feet above the river, depending on river stage. The average annual flow rate of the Colville River measured at Kettle Falls, 6 miles downstream of the site, is 304 cubic feet per second (cfs). Mean annual precipitation in Colville is 17.20 inches; the two-year, 24-hour rainfall event for the site is 1.4 inches.

There are eight surface water intake locations downstream of the site on the Colville River, six of which are used for either domestic or irrigation purposes. The Superfund Technical Assessment and Response Team (START), as part of the Bonanza Mill Site Investigation, conducted interviews of residents living in the vicinity of these surface water rights, and determined no existing drinking water intakes were in use within 2 miles downstream of the site.

The State of Washington has delineated portions of Colville River watershed upgradient of two surface water intakes for public water systems as areas that should be protected. For the surface water sources, these "source water protection areas," are defined based on short-term travel times, 24-hour time-of-travel during a 10-year flood event. The state chose to focus on this portion of the watershed because a spill or release within these areas has the greatest potential to impair the quality of the drinking water since there won't be much time to respond to an incident. Depending on what is released, human health could be at risk if the spill/release can not be mitigated before it reaches the public water system. The state has rated the surface water sources for both of these public water systems as highly susceptible to contamination.

The Site is located within 200 feet of the Colville River and it's associated habitats for threatened species, including the bald eagle and bull trout. Bald eagles are listed *threatened* under the Endangered Species Act and are known to utilize the Colville River corridor for nesting, feeding, and migrating purposes. A bald eagle nest is known to exist along the banks of the Colville River within 0.75 miles of the Site. Bald eagles are known to feed on fish from the Colville River. The Colville River drains into Lake Roosevelt, which may provide habitat for the ESA listed *threatened* bull trout. Due to the site's proximity to the Colville River a portion of the site contains wetlands with open water at certain times of the year. These open water areas may provide important habitat for migrating water fowl. Other fish and wildlife species that may utilize the habitats on and near the site includes various deer species, wild turkey, pheasant, various amphibians, rainbow trout, brown trout, brook trout, walleye, and several migratory birds.

The Colville River is utilized as a sport fishery for rainbow trout, brown trout, brook trout, and walleye. Washington State fishing regulations allow for human consumption of these fish species.

The Colville River is a CWA section 303d listed impaired surface water for temperature, fecal coliform, pH, dissolved oxygen, ammonia, and chloride.

3. Site characteristics

Phase I removal activities were conducted to stabilize hazardous materials on site in January 2005. Spent product, waste sludge, wastewater, and debris were removed from the aforementioned ASTs, thermal tanks, sumps and piping and the process area facility and equipment was secured, rendered unuseable, and access restricted.

Currently, the facility is not in operation and the owner has cleared the site and sold most of the equipment, vehicles, treated wood product, untreated lumber, buildings, structures, and salvageable materials. Only the Treatment Building with associated process equipment, boiler building, machine shop, scattered untreated and treated wood, metal and construction debris, and building foundations remain.

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

The primary contaminants of concern - PCP, PCDDs, PCDFs, and DROs - are potential hazardous substances or pollutants or contaminants as defined by sections 101(14) and 101(33) of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended, 42 U.S.C. section 9601(14) and (33).

Process Area

January 2005 Phase I removal activities resulted in the ASTs, thermal tanks, and associated piping being cleaned out, removed from service, and rendered unuseable. All liquid, solid, and sludge wastes were either secured on site or transported off site for disposal. Access to the treatment building and the majority of the process area was restricted with a locked fence.

Mechanisms for past releases and migration of contamination in this area include: poor housekeeping practices, a ruptured AST, leaking pipes and tanks, drainage and dumping of waste solutions to retention ponds, historical operations on the former treatment pad that is presently covered by a newer pad, and undocumented disposal practices. Migration of contamination has occurred and continues to occur through leaching to the subsurface soil and shallow groundwater. Recently, contaminated shallow groundwater has been documented to be flowing in a westerly direction to the North Stockpile Area. Releases of

contaminated groundwater can occur to surface water and sediments in the nearby pond and drainage features. Aerial dispersion of contaminated surface soil to surrounding areas may be occurring. Overland flow of contaminated surface soils can occur to adjacent areas' surface soil and to the nearby pond and drainage features.

PCP concentrations in surface soils ranged from 0.0172 to 280 milligrams per kilogram (mg/kg), in subsurface soils from 0.0201 to 500 mg/kg, and in ground water ranged from 6.2 to 8,000 micrograms per liter (µg/L). Dioxin concentrations in surface soils ranged from 0.0349 to 3.94 mg/kg and in subsurface soils from 8.79 to 11.51 mg/kg. DRO concentrations in surface soils ranged from 7.9 to 18,000 mg/kg, in subsurface solids from 4.5 to 15,000 mg/kg, and in ground water from 52 to 32,900 µg/L. Free product was found in one sample location on the northwest corner of the Machine Shop. The maximum contaminant concentrations of PCP, diesel range organics, and dioxins found in the Process Area and the associated comparison criteria are shown in Table 1.

North Stockpile Area

Mechanisms for past releases and present migration of contamination in this area include: poor housekeeping practices leading to spills and incidental drippage, undocumented waste disposal practices, and migration of contamination from the Process Area by way of human and natural processes. Recent hydraulic data collected over the past year has provided new information indicating that PCP and diesel contamination is migrating via shallow groundwater from secondary source contamination in soil and groundwater identified in the Process Area. This recent information shows that the highest concentrations of PCP contamination has occurred in monitoring wells on the western boundary of the site and the flow direction data suggests that shallow groundwater contamination is migrating off-site in a westerly flow to the Clowser property. While PCP has not been detected in EPA samples collected over the past two quarterly events, the shallow groundwater contamination is threatening the drinking water well for this property. During the April 06 quarterly groundwater sampling event, low levels of PCP were detected in two surface water samples collected in high waters accumulating in a former Colville River oxbow on the Clowser property. These PCP detections may be associated with contaminated shallow groundwater.

Aerial dispersion of contaminated surface soil to surrounding areas, (possibly off site to a nearby hay field) may be occurring. Overland flow of contaminated surface soils can occur to nearby surface soil and to drainage features.

PCP concentrations in surface soils ranged from 0.0331 to 2.6 mg/kg and in ground water ranged from 0.24 to 875 µg/L. In subsurface soils, analyzed by immunoassay in the field, PCP was detected at 0.1 mg/kg in one sample and not detected in nine other samples collected from the North Stockpile Area. PCP concentrations in surface water samples collected from the Clowser property on the west site boundary, during high water, ranged between 0.41 to 0.68 µg/L. Dioxin concentrations in surface soils ranged from 0.00005 to

0.3 µg/kg. DRO concentrations in surface soils ranged from 8.13 to 870 mg/kg and in ground water from 58 to 1,070 µg/L. DRO concentrations in surface water samples collected from the Clowser property on the west site boundary, during high water, ranged between 110 and 270 µg/L. Dioxins and DRO were not analyzed for in subsurface soil samples collected in the North Stockpile Area. The maximum contaminant concentrations of PCP, diesel range organics, and dioxins found in the North Stockpile Area and the associated comparison criteria are shown in Table 1.

South Stockpile Area

Mechanisms for past releases and present migration of contamination in this area include: poor housekeeping practices leading to spills and incidental drippage, undocumented waste disposal practices, and migration of contamination from the process area by way of human and natural processes. Aerial dispersion of contaminated surface soil from the South Stockpile Area may be occurring to surrounding areas. Overland flow of contaminated surface soils can occur to nearby surface soil and to drainage features.

PCP concentrations in surface soils ranged from 0.0155 to 130 mg/kg, in subsurface soils from 0.0347 to 20.5 mg/kg, and in ground water ranged from 0.058 to 1 µg/L. Dioxin concentrations in surface soils ranged from 0.130 to 7.2 µg/kg. DRO concentrations in surface soils ranged from 11 to 7,750 mg/kg, in subsurface soils from 11 to 90.2 mg/kg, and in ground water from 51 to 601 µg/L. The maximum contaminant concentrations of PCP, diesel range organics, and dioxins found in the South Stockpile Area and the associated comparison criteria are shown in Table 1.

Drainage Area

Mechanisms for past releases and present migration of contamination in this area include: poor housekeeping practices leading to spills and incidental drippage, undocumented waste disposal practices, and migration of contamination from the process area by way of human and natural processes. Aerial dispersion of dry contaminated sediments to surrounding areas may be occurring during the dry season. Contaminated surface water and sediments may release to the nearby Colville River in the spring wet season and during storm and flood events.

PCP concentrations in sediment ranged from 0.00535 to 4.3 mg/kg and in surface water ranged from 2.8 to 3 µg/L. DRO concentrations in sediment ranged from 7.3 to 960 mg/kg and in surface water from 490 to 660 µg/L. The maximum contaminant concentrations of PCP, diesel range organics, and dioxins found in the Drainage Area and the associated comparison criteria are shown in Table 1.

5. NPL status

The Site is not listed on the National Priorities List (NPL) nor has the site been proposed for listing on the NPL. In April 2005, site information was presented to the Region 10

Management Review Team for an evaluation of whether to pursue listing the site on the NPL. The Management Review Team agreed to reconvene following further removal activity which may provide additional information on current human health impacts from groundwater contamination at the Site as well as when more information regarding potentially responsible party viability was obtained. The additional information/data obtained by the removal program and PRP searches has not yet been presented to the Management Review Team.

6. Maps, pictures, and other graphic representations

Refer to Figure 1 for Colville Post and Poles Site location map; Figure 2 depicts the existing site layout, features, and decision areas; Figure 3 depicts the PCP and dioxins in Surface Soil and Sediment Sample Locations; Figure 4 depicts the PCP and Dioxins in Subsurface Soil Sample Locations; Figure 5 depicts the Maximum PCP Concentrations in Groundwater Sample locations.

Table 1. Maximum contaminant concentrations and comparison values.

		MTCA Method B	Region 9 PRG	Process Area	North Stockpile Area	South Stockpile Area	Drainage Area
Surface soil	PCP(ca) (mg/kg)	8.33	3	**280**	2.6	**130**	NA
	Diesel range organics[b] (mg/kg)	2,000	-	**18,000**	870	**7,750**	NA
	Dioxin (µg/kg)	0.00667	0.0039	**3.941J**	**0.3**	**7.2**	NA
Subsurface Soil	PCP (mg/kg)	8.33	3	**500J**	NA	**20.5**	NA
	Diesel range organics[b] (mg/kg)	2,000	-	**15,000**	NA	90.2	NA
	Dioxin (µg/kg)	0.00667	0.0039	**11.51**	NA	NA	NA
Ground Water[a]	PCP (µg/L)	0.729	1.0[f]	**8,000**	**875**	**1**	NA
	Diesel range organics (µg/L)	500	-	**32,900**	**1070J**	**606J**	NA
Sediment[a]	PCP (mg/kg)[c]	0.36	3	NA	NA	NA	4.3J
	Diesel range organics (mg/kg)	2,000	-	NA	NA	NA	960
Surface Water[a]	PCP[d] (µg/L)	0.28	-	NA	NA	NA	**3**
	Diesel range organics[e] (µg/L)	500	-	NA	NA	NA	**660Z**

Notes:
Bold values indicate results greater than MTCA Method B cleanup levels and/or US EPA Region 9 PRGs for Residential Soil.

a - Analysis for dioxins was conducted on surface and subsurface soil.

b - The concentration of DRO detected was compared to MTCA Method A cleanup level for unrestricted land use (Ecology 2001).

c - The sediment cleanup level for PCP of 0.36 mg/kg is based on benchmark data published by Oak Ridge National

Laboratory (Jones et al. 1997).

d - The surface water cleanup level for PCP of 0.28 µg/L is based on human health criteria in Washington Administrative Code (WAC) 173-201A.

e - The concentration of DRO detected was compared to MTCA Method B cleanup level for ground water.

f - The Maximum Contaminant Level (MCL) criteria is a legally-enforceable standard that applies to public water systems. Primary standards protect drinking water quality by limiting the levels of specific contaminants that can adversely affect public health and are known or anticipated to occur in water.

ca - carcinogen; carcinogen value indicated, if available.

J - The associated numerical value is an estimated quantity because the reported concentrations were less than the required detection limits or quality control criteria were not met.

mg/kg - milligrams per kilogram

MTCA - Model Toxic Control Act (Ecology 2001).

NA - Not analyzed

PRG - U.S. EPA Region 9 Preliminary Remediation Goals for Direct Contact Exposure Pathway for Residential Soil (U.S. EPA 2002b).

µg/L - micrograms per liter

Z - The chromatographic fingerprint does not resemble a petroleum product. Non-petroleum organics interferences may be present in the sample.

References

Jones, D.S., G.W. Suter, and R.N. Hull, 1997, *Toxicological Benchmarks for Screening Contaminants of Potential Concern for Effects on Sediment-Associated Biota: 1997 Revision*, Oak Ridge National Laboratory, Oak Ridge, Tennessee, ES/ER/TM-95/R4.

B. Other Actions To Date

1. Previous actions

Colville Post and Poles

In 1989, a reported rupture of a 10,000 gallon AST situated in the AST tank farm, resulted in an unknown amount of PCP solution being released to the ground. In 1991, Potentially Responsible Party (PRP) actions resulted in Century West (an engineering/cleanup company) conducting a limited site assessment to assess a release from an AST. Elevated levels of PCP (830 and 410 ppm) and diesel (14,000 and 11,000 ppm) were detected in the excavated and stockpiled soils, respectively; 5.5 ppm PCP was detected in ground water. Approximately 50 cubic yards (CY) of soil were stockpiled onsite. Removal of material from the site was never confirmed.

In 1994, PRP actions resulted in monitoring wells being installed south of the Process Area by Total Consultants (an engineering/cleanup company). Elevated levels of TPH (3,800 ppm) and PCP (1.1 ppm) were detected in soil; 4.6 ppm TPH and 56 ppb PCP were detected in ground water in the former AST area. Approximately 150 CY of soil was excavated and stockpiled onsite. Location of stockpiled contaminated soil is unknown but suspected to be the soil mound in the South Stockpile Area.

In 1997/1998, PRP actions resulted in TechCon (an engineering/cleanup company) removal of approximately 20 CY of contaminated soil from the SW corner of the treatment building and stockpiled onsite (location uncertain). Elevated levels of PCP (550 ppm) and diesel (24,300 ppm) were detected in subsurface soil near the collection sumps; diesel (1.8 ppm) was detected in ground water samples taken from a former monitoring well.

Washington State Department of Ecology and EPA Region 10 RCRA

In 1993, Ecology performed a hazard assessment at the site. Contamination was not found to be widespread, but restricted to the former AST area (31.2 ppm PCP). A MTCA Site Hazard Assessment was conducted, resulting in a score of 3.

Ecology collected groundwater samples in 1995 and 1997 during oversight of PRP-led cleanup at the site. Low levels of PCP and diesel were detected in some of the samples.

With Ecology oversight, the PRP installed a borehole/monitoring well and trench between the treatment building and pond and discovered product. Ecology soil sampling indicated PCP (404 ppm) and heavy oil (19,700 ppm) contamination, and tentatively identified dioxin contamination.

Several inspections of CPPI have been performed by Ecology and/or EPA since 1994. Generator violations were routinely documented. Evidence of illegal disposal practices were also documented. It appears from the file record that, at a minimum, CPPI may have never minimally complied with the requirement to immediately clean up infrequent and incidental drippage in the storage yard. Additional information on previous inspection findings are documented in individual inspection reports dated: March 2, 1994; July 7, 1996; April 3, 1998; October 20, 1998; March 9, 1999; June 12, 2002, October 23, 2002; and August 20, 2003.

In a December 2002 memo, Ecology documented their decision to defer the RCRA lead to EPA at this Site. Ecology's deferral decision was based on the following:

a. At the time of Ecology's deferral, EPA's CERCLA program was conducting an assessment at the neighboring Bonanza Mill Site.
b. CERCLA 105(d) petition by the Colville Tribe which requires a response by EPA.
c. Colville Post and Poles, Inc. was in violation of OPA/SPCC requirements and only EPA has authority for those violations. And,
d. EPA had the lead for a number of other wood treating facilities under a work share agreement with Ecology. Thus, there was a desire to maintain consistent regulatory treatment of wood treaters in Region 10.

On May 20, 2004, EPA inspected the Site and subsequently issued a Notice Of Violations (NOV) to Colville Post and Poles, Inc. for various violations of the State's authorized dangerous waste regulations. As a result of the NOV, the Site was

classified as a significant non-complier. Through the NOV, EPA also determined that Colville Post and Poles had not complied with the generator conditions for storing dangerous waste and had also disposed of dangerous waste at its facility without having Interim Status or a permit and therefore, was determined to be the owner/operator of an illegal treatment, storage or disposal facility (TSDF). On August 19, 2004, EPA issued a letter outlining the various violations of RCRA, the Clean Water Act SPCC requirements, and the need to undertake additional assessment and cleanup activities under CERCLA to address contamination at the Site.

Other Governmental Agency/Tribal Involvement

In 1999, the Confederated Tribes of the Colville Reservation filed a Preliminary Assessment petition for the Columbia River. In 2000, the tribe sent a letter with proposed specific sites of interest for EPA to conduct Site Assessments, including Colville Post and Poles. The matter was referred to the EPA Resource Conservation and Recovery Act (RCRA) Program for follow-up action.

2. Current actions

Actions currently being undertaken by the EPA Region 10 Removal Program include: maintaining fencing around the Process Area of the site to restrict access and quarterly groundwater sampling of on-site monitoring wells and nearby off-site domestic wells.

C. State and Local Authorities' Roles

1. State and local actions to date

The State of Washington Department of Ecology and Health, the Stevens County Commissioners, and the Tri-County Health District have been and will continue to be involved with planning and apprized of the conduct of EPA response activities.

2. Potential for continued State/local response

The State of Washington does not have the resources necessary to provide an appropriate and timely response needed to address potential human health and ecological risks associated with the organic contaminants described herein.

3. The Confederated Tribes of the Colville Reservation

Government-to-government consultation has been initiated with the Confederated Tribes of the Colville Reservation (CCT). There have been ongoing briefings of tribal staff regarding the proposed response action and the CCT will have the opportunity to review and comment on the Action Memorandum. The CCT will continue to be briefed on conduct of the response action.

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

The current conditions at the Colville Post and Poles 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. Any or all of these factors may be present at a site yet any one of these factors may determine the appropriateness of a removal action.

A. Threats to Public Health or Welfare

The following factors from Section 300.415(b)(2) of the NCP form the basis for EPA's determination of the threats present, and the appropriate action to be taken:

1. Exposure to nearby human populations, animals, or the food chain from hazardous substances, pollutants or contaminants (300.415[b][2][i])

The elevated concentrations of PCP, dioxins, and DRO found in surface and subsurface soils, and PCP and DRO found in surface and ground water throughout the site and unrestricted access indicate that the human ingestion, inhalation, and direct contact exposure pathways exist. Studies have identified the following health effects of exposure to PCP: adverse effects to organ systems, including the liver, kidneys, skin, blood, lungs, central nervous system (CNS), and gastro-intestinal tract. Long-term exposure to lower levels of PCP can cause damage to the liver, blood, and the CNS. Dioxin is classified as a group B2 probable human carcinogen by EPA.

Recreationists and/or trespassers could be exposed to PCP-contaminated equipment and surfaces in the process area, as well as elevated concentrations detected in soils and surface water. Exposure to dioxin and DRO would be through the human ingestion, inhalation, and direct contact exposure pathways from the elevated concentrations detected in soils. Nearby residents have indicated during interviews that they and their children regularly participate in recreational fishing in the Colville River in the vicinity of Colville Post and Poles, Inc.

Contaminated ground water and contaminated soils/sediments may migrate via surface water to the Colville River, an established swimming area for local children, and then down river to surface water intakes, recreational locations, and sensitive environments/ecological receptors. As shown in recent groundwater flow data collected from the on-site monitoring well network, PCP- and DRO-contaminated groundwater may migrate to the west to the Clowser property and further down gradient. While PCP and DRO have not been found in the Clowser property drinking water well, low levels of PCP- and DRO-contaminated surface water was found during flooding/high water conditions in April 2006 in samples collected on the Clowser property, near a former Colville River oxbow. These results indicate that either contaminated soils may have migrated via aerial dispersion and/or

overland flow or there may be connectivity and exchange between contaminated shallow groundwater and surface water.

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

PCP and DRO contamination is present in on-site shallow groundwater in the North Stockpile Area at the western boundary and is migrating off site to the Clowser property to the west. Groundwater elevation data, collected over the past year, has consistently shown a gradient trending parallel to the Coville River towards the domestic drinking water wells west of the Site. In addition, analytical data from two surface water samples collected from the Clowser property, during high water in April 2006, reveal low levels of PCP, suggesting a potential connection between contaminated groundwater and surface water. At this time, the potential interactions between surface water and groundwater are not well understood. It is not clear if contaminated groundwater is releasing to surface water features or surface water is feeding groundwater and whether this changes on a seasonal basis. Several residences are located down gradient of the Site, and these residences use shallow groundwater wells for domestic use. There is a potential that the release of PCP and DRO from the site to groundwater could contaminate the drinking water supplies of the neighboring residences.

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

Surface soil samples at the site exceed MTCA Method B cleanup levels for Unrestricted Land Use and Region 9 PRGs for PCP, dioxin, and DRO in residential soils. Contaminated surface soil and water may migrate as the site is not completely vegetated and susceptible because of water- and wind-borne influences.

4. Weather conditions that may cause hazardous substances, pollutants or contaminants to migrate or to be released (300.415[b][2][v])

Surface soil samples at the site exceed MTCA Method B cleanup levels for Unrestricted Land Use and Region 9 PRGs for PCP, dioxin, and DRO in residential soils. Contaminated surface soil and water may migrate as the site is not completely vegetated and susceptible because of water- and wind-borne influences.

The warmer temperatures and dry weather typical in the summer and fall months in Stevens County will contribute to wind-borne dispersal of contaminated surface soil. During the spring time snow melt, rainfall or other forms of run-off inducing events will tend to spread the contaminated materials further from the Site. The Site is also in the 100-year flood plain and susceptible to flooding caused by heavy rainfall.

5. Availability of other appropriate federal or state response mechanisms to respond to the release (300.415[b][2][vii])

Neither Ecology nor the facility owner have access to the necessary resources to provide an appropriate and timely response to address potential human health and ecological risks associated with the contaminated media described herein.

B. Threats to the Environment

The site is adjacent to the Colville River and the associated riparian ecosystem. The river is a tributary to Lake Roosevelt (the Upper Columbia River), currently under investigation with the Remedial Program for impacts from contaminated sites within the drainage area. The investigation is currently assessing the risks to ecological receptors found in Lake Roosevelt, including Bull Trout and its predators.

1. Exposure to nearby human populations, animals, or the food chain from hazardous substances, pollutants or contaminants (300.415[b][2][i]

Ecological receptors could become exposed to site contaminants through direct contact with site soils contaminated with PCP, dioxins, and DRO; direct contact with site water and sediments contaminated with PCP, dioxins, and DRO; ingestion of soils, water, and sediment contaminated with PCP, dioxin, and DRO; and ingestion of contaminated food (e.g. fish and other aquatic species, soil dwelling insects, vegetation) .
Bald eagles are known to feed on fish from the Colville River and can be exposed to environmental contaminants such as PCP, dioxin, and DRO that have bio-accumulated in common prey species such as trout.

Small mammals and migratory birds residing in the Colville River drainage are being exposed to elevated levels of PCP, dioxins, and DRO; these species are assumed to be at risk due to the variety of contaminants of concern.

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

The drainage ditches located on the site discharge to wetlands that are contiguous with the Colville River. These drainage ditches provide a migration pathway from areas of documented contamination on the site to the Colville River. Additionally, site contaminants found in the drainage ditches and in shallow groundwater can concentrate in the wetlands that provide aquatic habitat for migratory birds, amphibians, benthic invertebrates, and small mammals. Ecological receptors could become exposed to site contaminants through direct contact with contaminated surface soil and water, migrating contaminated surface soils and with surface water contaminated by PCP, dioxin, and DRO; ingestion of contaminated media; and ingestion of contaminated food (e.g., soil- or surface water-dwelling insects, vegetation).

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

Surface soil samples at the site exceed MTCA Method B cleanup levels for Unrestricted Land Use and Region 9 PRGs for PCP, dioxin, and DRO in residential soils. Contaminated surface soil and water may migrate as the site is not completely vegetated and susceptible because of water- and wind-borne influences.

During the spring snow melt, rainfall, and other forms of run-off inducing events can inundate the lower portions of the site and allow further migration of site contaminants to the Colville River and adjacent wetlands. The Site is in the 100-year flood plain and susceptible to flooding caused by heavy rainfall.

4. Weather conditions that may cause hazardous substances, pollutants or contaminants to migrate or to be released (300.415[b][2][v])

The warmer temperatures and dry weather typical in the summer and fall months in and near the site will contribute to wind-borne dispersal of contaminated surface soil because of an insufficient vegetative layer.

During the spring snow melt, rainfall, and other forms of run-off inducing events can inundate the lower portions of the site and allow further migration of site contaminants to the Colville River and adjacent wetlands.

IV. ENDANGERMENT DETERMINATION

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

V. EXEMPTION FROM STATUTORY LIMITS

This special Action Memorandum combines requests for an initial removal action with an exemption from the $2 million statutory limitation. The severity of the threats that justify the exemption request are:

There is an immediate risk to public health or welfare or the environment

An emergency exemption is justified because a public health hazard exists for trespassers and recreationists who may be exposed to PCP, DRO, and dioxin contaminants present in the soil at the Site. The potential for exposure at the facility is exacerbated by unlimited site access, its appeal as an attractive nuisance because of historical features and the presence of recoverable materials (untreated and treated wood, scrap metal, structures, sawdust) and its proximity to recreational opportunities (fishing, swimming) in the adjacent Colville River. In addition, there is a potential for contaminated site soils to migrate via wind or water dispersal to the adjacent residential properties and to the Colville River.

Existing data indicates that PCP contamination in groundwater originates in the Process Area of the Site and flows in a westerly direction to the Clowser residential property and

potentially to other down gradient residential wells, which may have potential impacts to drinking water wells and/or to the Colville River.

Assistance will not be provided on a timely basis

Neither State or local governments nor the landowner have access to or resources to provide the appropriate timely response needed to address potential health and ecological risks associated with the wood-treating waste contaminants described herein.

VI. PROPOSED ACTIONS AND ESTIMATED COSTS

The proposed actions are critical for a comprehensive federal and state effort to address the potential human health and environmental impacts of PCP contamination at the site. The following objectives, which correspond to Section 300.415(b)(2) of the NCP, have been developed for the site:

1. Mitigate direct contact, ingestion, and inhalation exposures to PCP, DRO, dioxins contaminated soil and sediments through excavation and treatment/transportation and disposal of the soil and sediments.
2. Reduce/minimize potential direct contact, ingestion, and inhalation exposures of human and ecological receptors to dioxin-contaminated soils by removal and/or clean soil and vegetative barriers
3. Mitigate the source of contamination to groundwater and surface water by excavating PCP-contaminated soils and sediments, followed by treatment/transportation and disposal.
4. Restore the hydraulic functionality of site groundwater and surface water by restoring excavated areas and returning the site to its original grade.

Based on an analysis of the nature and extent of PCP contamination and the response objectives listed in the preceding paragraph, the following alternative actions were evaluated for the Colville Post and Poles site:

- **Alternative 1** - No action. Site conditions remain unaltered and risks to human health and the environment persist.

- **Alternative 2** - Excavation of PCP-contaminated soil and sediment for off-site transportation and disposal (T&D) at a CERCLA-approved disposal facility. Excavated areas would be back-filled with clean off-site fill, and the site would be returned to its original grade. Soil cover and vegetation added to North Stockpile Area to minimize direct contact and migration of contaminated surface soil.

- **Alternative 3** - Excavation and consolidation of PCP-contaminated soil and sediment for on-site bioremediation. Once contaminated materials are treated to site cleanup levels, treated soil would be returned to the excavated

areas, and the site would be returned to its original grade. Soil cover and vegetation added to North Stockpile Area to minimize direct contact and migration of contaminated surface soil.

Alternative 1 was not selected because it would not address the actual or potential imminent and substantial human health and ecological threats posed by the PCP-contaminated soils. Both Alternatives 2 and 3 were judged to be protective of human health and the environment. Alternative 2 is almost certain to be successful, but it is also likely to be the most expensive option. Alternative 3 is a potentially less-costly option to achieve the site cleanup objectives, but bench-scale testing indicates that bio-remediation will not achieve the site cleanup levels for some or all of the site soils. Therefore, Alternative 2, excavation and off-site treatment and disposal has been selected for the site.

A. Proposed Actions

1. Proposed action description

Process Area Structures Demolition

The Treatment Building, Boiler Building, PCP Storage Shed, and Maintenance Shop will be inspected for Asbestos and Lead Paint, and if the materials are present then they will be removed and disposed of properly. Heavy equipment will be brought in to disassemble the buildings and structures and consolidate the materials into waste streams. If cost-effective, recoverable metals will be processed according to regulations and transported for metal recycling. The concrete drip-pads will be crushed and excavated and included with the appropriate waste stream. All structures and impediments will be removed in order to initiate soil excavation.

Excavation of Contaminated Soil

It is anticipated that approximately 8,000 cubic yards of PCP-contaminated soil and sediment will be excavated at the site. Most of the contaminated soil will be excavated from the Process Area, while smaller quantities (hot-spots) of contaminated surface soil and sediment will be removed from the North Stockpile Area, the South Stockpile Area, and the Drainage Area pond near the Process Area. The PCP-contaminated soils will be segregated and consolidated on site into two waste streams, heavily-contaminated soil and medium-contaminated soil. Excavation will continue until PCP concentrations in soil are determined by field immunoassay kits to be below the MTCA Method B cleanup levels of 8.33 mg/Kg or the water table is encountered or the top of confining clay layer is encountered (approximately 10 - 20 feet below ground surface).

The heavily-contaminated soil (PCP concentration > 74 mg/kg) will be transported off site and treated prior to disposal at a RCRA Subtitle C landfill. The medium-contaminated soil (PCP concentration < 74 mg/kg) will be transported off site for direct

landfill at a RCRA Subtitle C landfill. The RCRA Subtitle C landfill will be a CERCLA-approved facility.

Covering and Vegetation of North Stockpile Area

In order to reduce direct contact to soils and wind/water erosion of soils with dioxin concentrations exceeding the MTCA Method B cleanup levels, clean soil will be acquired from an off-site location and used to apply a 6-inch soil cover layer. This cover will be seeded to promote vegetative growth to further reduce erosion.

Groundwater Monitoring and Modeling Program

In addition to the eleven monitoring wells already on site, up to nine more monitoring wells will be installed on- and off-site to monitor groundwater quality. Surface water measuring stations will also be established to determine the hydraulic connectivity between surface water and groundwater. Under CERCLA 104(b), further assessment of groundwater quality will be conducted by collecting samples from the existing and new wells, as well as the off-site residential drinking water wells for the next four quarters. This information coupled with other hydraulic data will be used to conduct modeling to identify where the PCP contamination is migrating to presently and estimate how long it will take for PCP-contamination to attenuate in the groundwater after the source is removed.

Site Restoration

Once PCP concentrations in the soils are reduced to below the cleanup level, clean backfill soil will be acquired from an off-site location and the excavated areas will be backfilled. The site will be returned to its original grade. Excavated drainage areas will also be restored to their original hydraulic functionality.

Best Management Practices

Temporary Best Management Practices (BMPs) will be employed throughout construction for control of erosion, fugitive dust, and storm water management, and to avoid adverse impacts on wildlife and their habitats.

2. Contribution to remedial performance

The proposed response action has been and will continue to be closely coordinated with the remedial program and the Washington Department of Ecology, to ensure that the action will, to the extent practicable, contribute to the efficient performance of any long-term remedial action (should one be taken) with respect to the release or threatened release concerned.

The proposed response action may be the first and only action or one of a series of actions depending on post-removal activities such as those necessary to maintain the protectiveness of the cleanup. If future actions are required, the proposed removal action will likely not impede those actions based upon available information.

3. Description of alternative technologies

Alternative 2 is the only practicable alternative for preventing exposure to PCP, diesel, and dioxin contaminated soils and sediments. No other technologies were found which would be considered practicable from an economic, engineering, and/or timing perspectives.

4. EE/CA

An engineering evaluation/cost analysis (EE/CA) is not required for a time-critical response action.

5. Applicable or relevant and appropriate requirements

The NCP, implementing CERCLA, requires that removal actions attain Applicable or Relevant and Appropriate Requirements (ARARs) under federal or state environment or facility siting laws, to the extent practicable. (40 CFR § 300.415(j)) In determining whether compliance with ARARs is practicable, EPA may consider the scope of the removal action and the urgency of the situation. (40 CFR § 300.415(j)) The scope of the removal action proposed in this Action Memorandum is limited to demolition of the contaminated treatment facility, excavation of PCP-contaminated soil, and continuation of the groundwater monitoring program. To the extent practicable, the proposed removal action will attain ARARs.

Federal ARARs

The following is a summary of federal ARARs identified to date for the proposed removal action:

Resource Conservation and Recovery Act, as amended (RCRA), 42 U.S.C. §§ 6901 et seq., and its implementing regulations codified in Chapters 260 through 265, and 268 of the Code of Federal Regulations (CFR), including but not limited to the following specific requirements identified at this time:

> 40 CFR Part 261, relating to identification of hazardous wastes including the toxicity characteristic. PCP-contaminated media are media that contain F032 listed hazardous waste and therefore must be handled as hazardous waste.

40 CFR §§ 262.11, 262.20, 262.21, 262.22, 262.23, 262.30, 262.31, and 262.32, relating to hazardous waste determination, manifesting and labeling requirements prior to transportation of hazardous waste containers off-site;

40 CFR §§ 263.20 and 263.21, relating to off-site transport of hazardous waste (handling and manifesting requirements);

40 CFR §§ 265.117(a)(1) and (c), 40 CFR § 265.310(a) and (b), relating to capping contaminated soils;

40 CFR §§ 268, and 40 CFR §§ 268.5 relating to off-site and on-site land disposal restrictions for hazardous wastes; and

40 CFR §§ 300.440, relating to the CERCLA "Off-Site Rule."

Clean Water Act. The substantive provisions of Section 404 of the Clean Water Act (CWA), 33 U.S.C. §§ 1344, are applicable requirements and will be to the extent practicable. Consistent with Section 404 of the CWA, the proposed removal action will be conducted in a manner to avoid the discharge of dredged or fill material into navigable waters, through the use of best management practices (BMPS), such as silt fences, hay bales, or other means necessary to control potential discharge from the site.

Endangered Species Act. Some of the substantive provisions of the Endangered Species Act, 16 USC §§ 1531 *et seq.*, are applicable requirements for this removal action and will be met to the extent practicable. For example, consistent with the ESA, the response action will be designed and conducted in a manner to conserve endangered or threatened species and their habitats, as determined through consultation with the USFWS in regards to species or habitats that have been identified as possibly being affected.

State ARARs

The following is a summary of *state ARARs* identified to date that may be applicable, or relevant and appropriate, to the proposed removal action:

State of Washington Dangerous Waste Regulations and its implementing rules codified at Washington Administrative Code (WAC), Chapter 173-303. To the extent that EPA has authorized the relevant State of Washington RCRA or Dangerous Waste Regulations, those regulations operate in lieu of the federal RCRA regulations. The relevant regulations, therefore, are those EPA-authorized state regulations which are the counterparts to the federal RCRA regulations which were listed above. If no state rule counterpart exists, then the federal RCRA regulations listed above applies.

State of Washington Model Toxics Control Act (MTCA) Cleanup Regulations and it's implementing rules codified at WAC Chapter 173-340.

Water Quality Standards for Surface Waters of the State of Washington, codified at WAC Chapter 173-201A.

The response action will comply with the substantive requirements of the State of Washington Wellhead Protection program (WAC 246-290) and with the substantive requirements of fugitive dust control under WAC 173-400 (Clean Air Act).

6. Project schedule

The start of response actions is anticipated on or about 25 September 2006, and the project is estimated to require 6 to 8 weeks of field activity to complete. The groundwater quality monitoring program is scheduled to continue for a full year after installation of additional wells.

B. Estimated Costs

Extramural Costs	
Regional Removal Allowance Costs	
ERRS (Construction, Equipment, and Material)	$ 2,400,000
Other Extramural Costs not funded from the Regional Allowance	
START	$ 250,000
USCG Strike Team	$ 30,000
Extramural 20% Cost Contingency	$ 536,000
Subtotal Extramural Costs and Contingency	$ 3,216,000
Total Removal Project Ceiling	$ 3,216,000

Estimated total EPA costs are based on full-cost accounting practices that will be eligible for cost recovery are $ 4,299,507, as shown below.

(3,216,000 + $ 41,202) = $ 3,257,202; (0.32 x $ 3,257,202) = $ 1,042,305

$ 3,257,202 + $ 1,042,305 = $ 4,299,507

where: Direct extramural = $ 3,216,000; direct intramural = (employee hourly rate [$58.94] x project duration [12 hrs/day] x 48 days) + (lodging [$60.00] + perdiem

[$39.00] x 48 days + airfare/rental car lump sum) = $ 33,950 + $ 4,752 + $ 2,500 = $ 41,202. Region-specific Indirect Cost Rate = 32%

The 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-judgement interest, do not take into account other enforcement costs, including Department of Justice costs, and may be adjusted during the course of the removal action. The estimates are for illustrative purposes only and their use is not intended to create any rights for responsible parties. Neither the lack of total costs or 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 response action should be delayed or not taken the site will remain a source of pentachlorophenol and diesel range organics contamination that is migrating into shallow groundwater. Without a response action to remove the contaminated soil, the contaminated groundwater will continue to migrate off site and potentially impact down gradient drinking water wells and/or the Colville River. Contaminated soils will remain as potential human health and ecological threats based on airborne, direct contact, and ingestion pathways. The site will remain susceptible to the effects of weather conditions (wind dispersion of contamination, flooding) that may cause uncontrolled releases or contamination migration from the Site to adjacent residential properties and/or the Colville River.

VIII. OUTSTANDING POLICY ISSUES

This removal action is an interim action that addresses source contamination in soil suspected of causing contamination in shallow groundwater at the site. This removal action also installs a temporary cover over surface soil contamination in the North Stockpile Area. CERCLA 104(b) assessment activities will continue through implementation of an enhanced groundwater monitoring program to assess groundwater quality for one year beyond the removal action. At the conclusion of the one year groundwater monitoring program, it is not certain if the Washington Department of Ecology or the EPA Remedial Program will assume management of the site and the groundwater monitoring program.

IX. ENFORCEMENT

See CONFIDENTIAL ENFORCEMENT addendum.

X. RECOMMENDATION

This decision document presents the selected removal action for the Colville Post and Poles Site, Colville, 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 site meet the NCP section 300.415(b)(2) criteria for a removal action and I recommend your approval for the proposed removal action. The total project ceiling if approved will be $ 3,216,000. Of this, an estimated $ 2,936,000 comes from the Regional removal allowance.

Approval: X Disapproval: _____

Signature: _____

Date: 9/13/2006

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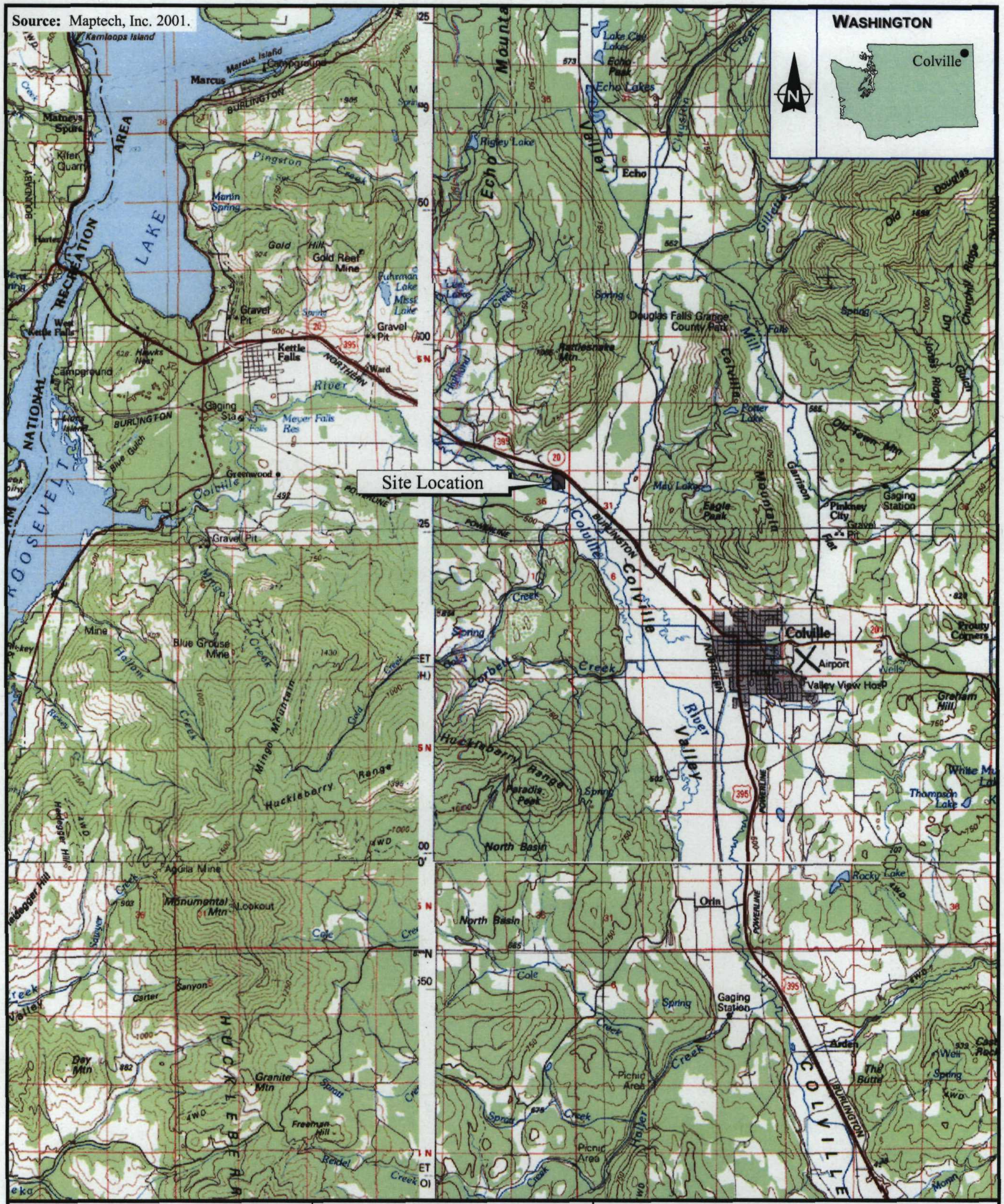

ecology and environment, inc.
International Specialists in the Environment
Seattle, Washington

COLVILLE POST & POLE SITE
Colville, Washington

0 1 2
Approximate Scale in Miles

Figure 1

SITE LOCATION MAP

Date:	Drawn by:	
3-23-06	AES	10:START-2\05120003\fig 1

N W E S

0 25 50 100 150 200 250

Feet

Scale 1:2,500

ecology and environment, inc.
International Specialists in the Environment
Portland, Oregon

COLVILLE POST & POLE SITE

Colville, Washington

Figure 2
SITE LAYOUT AND DECISION AREAS

Job Id:
002233.0003.01SF

Date:
3/8/2006

GIS Analyst:
avh

Map Source Information:
WSDOT Aerial Photography, 4/16/1994.

N W E S

0 25 50 100 150 200 250
Feet

Scale 1:2,500

ecology and environment, inc.
International Specialists in the Environment
Portland, Oregon

COLVILLE POST & POLE SITE

Colville, Washington

Figure 3
Pentachlorophenol and Dioxins in Surface Soil and Sediment Sample Locations

Job Id: 002233.0003.01SF

Date: 5/19/2006

GIS Analyst: avh

Map Source Information: WSDOT Aerial Photography, 4/16/1994.

N W E S

0 25 50 100 150 200 250

Feet

Scale 1:2,500

ecology and environment, inc.
International Specialists in the Environment
Portland, Oregon

COLVILLE POST & POLE SITE

Colville, Washington

Figure 4
Pentachlorophenol and Dioxins in Subsurface Soil Sample Locations

Job Id: 002233.0003.01SF

Date: 5/19/2006

GIS Analyst: avh

Map Source Information: WSDOT Aerial Photography, 4/16/1994.

N W E S

0 50 100 200 300 400

Feet

Scale 1:3,200

ecology and environment, inc.
International Specialists in the Environment
Portland, Oregon

COLVILLE POST & POLE SITE

Colville, Washington

Figure 5

Maximum Pentachlorophenol Concentrations in Groundwater Sample Locations

Job Id: 002233.0003.01SF

Date: 5/19/2006

GIS Analyst: avh

Map Source Information: WSDOT Aerial Photography, 4/16/1994.