



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

**REGION 8**

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Ref: 8EPR-ER

JUL 24 2015

**ACTION MEMORANDUM**

**SUBJECT:** Approval and Funding for a Removal Action and Emergency Exemption from the 12-Month Statutory Limits at the Cowboy Timber Site in Big Horn County, Wyoming.

**FROM:** Craig Myers  
Federal On-Scene Coordinator

**THRU:** Laura Williams, Unit Leader  
Emergency Response

**TO:** David Ostrander, Director  
Emergency Response & Preparedness Program

**I. PURPOSE**

The purpose of this Action Memorandum is to request and document approval of the removal action described herein for the Cowboy Timber Site (Site) in Big Horn County, Wyoming, as well as to document exemption of the removal action from the 12-month statutory limitation on response.

This time-critical removal action involves the cleanup and treatment of pentachlorophenol (PCP) contaminated soil. Conditions existing at the Site present an endangerment to human health and the environment and meet the criteria for initiating a removal action under 40 CFR 300.415(b)(2) of the National Contingency Plan (NCP). This removal action is anticipated to require less \$2 million to complete.

This removal action involves no nationally-significant or precedent-setting issues. This time-critical removal action will not establish any precedent for future response actions and will not commit the U.S. Environmental Protection Agency (EPA) to a course of action that could have a significant impact on future responses or resources.

**II. SITE CONDITIONS AND BACKGROUND**

Site Name:	Cowboy Timber
Superfund Site ID (SSID):	A872
NRC Case Number:	Not Applicable
CERCLIS Number:	WYN000803029
Site Location:	Big Horn County, Wyoming
Lat/Long:	44.4830961/-108.0246162

Potentially Responsible Party (PRP):	Under Investigation
NPL Status:	Non NPL
Removal Start Date:	TBD

## **A. Site Description**

### **1. Removal Site Evaluation**

The Wyoming Department of Environmental Quality (WDEQ) Hazardous Waste Division discovered suspected contamination at the Site during a routine inspection in 2011. Due to health issues of the current owner, subsequent inspections and other enforcement activities were delayed. The inspector notified the OSC of the suspected contamination in the spring of 2013, at which point the On-Scene Coordinator (OSC) started a removal site evaluation.

The Site started operations in the 1920s as a small natural gas refinery, reportedly drying the gas by removing natural gas liquids and removing sulfur bearing compounds. Very little information is available at this time as to facility construction or gas throughput. In the 1950s, the facility was purchased by a wood treating company, which started treating posts using a pentachlorophenol (PCP)/diesel fuel mixture. This practice continued through the 1990s, and there is an extensive Resource Conservation and Recovery Act (RCRA) file on the facility.

Investigation by the START contractor yielded surface and subsurface PCP contamination, and revealed that the contamination had impacted a shallow groundwater formation. The initial investigation effort was centered on the primary drip pad, where trenches were excavated to allow visual and olfactory assessment and subsequent sampling of suspect soils. The initial sampling event indicated that contamination extended below the depth accessible by the excavator available – a depth of 14 feet below ground surface. Details of this sampling event are available in the START 3 Sampling Activities Report in the administrative record for the Site.

A second event was conducted to assess contamination at depth in order to attempt to quantify the depth of contamination in areas where the previous assessment was unable to do so. This effort identified a thin contaminated strata approximately 30 feet below ground surface, indicating significant downward migration. Details of this sampling event are available in the START 4 Trip Report in the administrative record for the Site.

### **2. Physical Location**

The site is located at 91 Hwy 31, Manderson, Wyoming, at: Latitude 44.2839069 / Longitude -107.9603291. The property surrounding the Site is primarily agricultural land. The Site sits on a bluff above the Bighorn River.

### **3. Site Characteristics**

The Site is an operating wood treatment facility and sawmill; however, the proposed scope of this removal action is focused on portions of the property that contain unused and essentially abandoned wood treatment structures. Current treatment processes utilize copper naphthenate and fuel oil, a process not regulated by RCRA. The current treatment process is done in areas of the Site that have not been utilized for the PCP-diesel fuel oil process used at the Site. This time-critical removal action is the first federal removal action on the Site.

**4. Release or Threatened Release into the Environment of a Hazardous Substance, Pollutant, or Contaminant**

The presence of PCP in the soils and shallow groundwater at the Site represents a release of hazardous substances to the environment.

**5. NPL Status**

This Site is neither on nor currently being considered for inclusion on the NPL.

**6. Maps, Pictures, Other Geographic Representations**

A map of the Site is available in Attachment 1 and Site photos are available in Attachment 2 of this action memorandum, in the Site file and in the administrative record.

**B. Other Actions to Date**

**1. Previous Actions**

None.

**2. Current Actions**

None.

**C. State and Local Authorities' Role**

**1. State and Local Actions to Date**

The WDEQ Underground Storage Tank program removed a leaking underground storage tank from the Site in 1992, and installed monitoring wells in 2012. While the state has taken other enforcement and regulatory actions on the Site, there have been no other removal activities on this Site.

**2. Potential for Continued State/Local Response**

None.

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

The conditions at the Site present a threat to public health and the environment and meet the criteria for initiating a removal action under 40 CFR §300.415(b)(2) of the NCP.

EPA has considered all the factors described in 40 CFR §300.415(b)(2) of the NCP and determined that the following factors apply at the Site:

“(ii) Actual or potential contamination of drinking water supplies or sensitive ecosystems”

Documented levels of PCP in the surface and subsurface soils exceed Wyoming's promulgated groundwater protection standards. There is no data available to positively conclude that the shallow groundwater on the Site is completely isolated from the groundwater plane associated with the Bighorn River or from the drinking water aquifer utilized by the residents immediately to the South of the Site. Additionally, as noted in Attachment 3 and the START 4 report, the contaminated layers identified in soil boring numbers 3 and 4, at 24 and 29/38 feet below ground surface respectively, indicate a significant downward migration of PCP in less than a tenth of a mile of horizontal distance. If the EPA does not take a response action, all available data indicate potential contamination of deeper aquifer(s) used for drinking water by nearby residents. A summary table of notable PCP detections is provided as Attachment 3, with a more detailed narrative explaining the results available in the START 3 and START 4 reports in the administrative record for the Site.

“(vii) The lack of availability of other appropriate federal or state response mechanisms to respond to the release”

As discussed previously in this document, there are no other federal or state mechanisms available to respond to this release.

#### **IV. ENDANGERMENT DETERMINATION**

Actual or threatened releases of hazardous substances from the Site, if not addressed by implementing the response action described in this action memorandum, present an endangerment to public health, welfare or the environment.

#### **V. Exemption from Statutory Limits**

##### **A. Emergency Exemption**

The removal action contemplated at the Site includes the on-site treatment of waste. While the EPA anticipates completing waste treatment within a 12-month period, adverse weather conditions such as abnormally wet/dry seasons, an abnormally cold winter or limited availability of sufficient quantities of water used in the treatment process could cause treatment to take in excess of the planned 12-month period. If there is a delay, inaction by the EPA would in uncontrolled hazardous waste that has been brought to the surface for treatment and would present an immediate risk to public health through offsite windborne spread of contamination. Therefore, immediate and continued response by the EPA will be necessary to ensure control of the remaining waste and completion of the necessary treatment occurs so that the threat to human health or the environment from the source material is minimized. The Site is not listed or currently being considered for listing on the NPL, and funds from state or local government sources will not be available on a timely basis to complete the removal action.

#### **VI. PROPOSED ACTIONS AND ESTIMATED COSTS**

##### **A. Proposed Actions**

###### **1. Proposed Action Description**

Generally, the proposed scope of this removal action will address the source area contamination through on-site treatment using enhanced biological remediation to breakdown PCP and petroleum hydrocarbon contamination in the soil into compounds that pose less or no risk to human health or the environment. This biological remediation is recognized by the

EPA as a presumptive remedy for wood treatment sites contaminated with PCP (Presumptive Remedies: Technology Selection Guide for Wood Treater Sites, EPA540-F-93-020) and Region 8 has successfully implemented this remedy several times since 2002 including, but not limited to the following sites: Creston Post and Pole RV2, Beaver Wood Product, Pringle Post and Pole, and Valley Post and Sawmill.

All waste handling activities (demolition, dismantling, excavating, treatment, etc) discussed below will be done within an area of contamination (AOC), a concept which is discussed in detail in the March 08, 1990, Preamble to the National Contingency Plan (55 FR 8758-8760). As a result, waste is not being placed in a new management unit, Land Disposal Restrictions (LDRs) do not attach to the waste, and no synthetic liner is required.

The primary and secondary drip pads, used in the past for timber treating operations, will be dismantled and appropriately disposed of. The attached Site map also reflects a concrete vault foundation and equipment platform foundation that will be demolished and disposed of. Any wood waste generated as part of this process will be chipped and added to the soil that will be treated during the enhanced biological remediation discussed below. Also, metal located on the Site will be appropriately recycled. Any contaminated concrete debris will be treated and/or disposed of in accordance with 40 CFR § 268.45.

The EPA will excavate contaminated soil in lifts. Given the spatial variability of contamination on the Site, samples will be taken on a grid basis prior to excavating each lift to identify clean versus contaminated soil. Contaminated soils will be stockpiled within the AOC while the enhanced biological remediation treatment cell is constructed. The scope of the removal action is limited to the excavation and treatment of the contaminated soils that can be excavated based upon the OSC's best professional judgement and the cost per mass unit of contamination removed [March 1990 Preamble to the NCP, 55 FR 8666]. The clean soil generated during the excavation will be used to backfill the excavation. The soil will be placed in 18 inch lifts and compacted to bring the excavation back to grade and construct the treatment cell. If required, verified clean fill will be brought from other areas of the Site outside of the AOC. If appropriate to do so, clean and treated concrete debris generated during the above excavation/demolition will also be used to fill the excavation.

Contaminated soils will be mixed with sawdust or fine wood chips obtained from the sawmill on-site. If necessary, slash piles on-site will be chipped to create a sufficient supply. Commercial NPK fertilizer and sulfur will be added to the soil/sawdust mixture, duplicating the proportions in the treatability study conducted during the fall of 2013 and spring of 2014. The amended contaminated soils will be placed into the treatment cell and tilled on a routine basis. Water will be added to maintain the target levels utilized in the successful treatability study.

This removal action will significantly reduce the volume of PCP in the source area soil, thus reducing the threat to drinking water sources located down gradient of the site. It may be completed at any time after the soils are treated to 7.4 milligrams/kilogram, the treatment level that would be required if the RCRA LDRs applied to the waste. As this is the only removal action currently contemplated at the site, it is the goal of this action to treat the waste to the EPA regional screening level (RSL) of 890 micrograms/kilogram. However, the cleanup may be considered complete at any time after the soils have been treated to 7.4 mg/kg, the treatment level that would be required by the RCRA land disposal regulations if

the applied to the waste. This determination will be based upon the OSC's best professional judgement and on a cost per unit mass of contaminant removed from the soil.

**2. Contribution to Remedial Performance**

This effort will, to the extent practical, contribute to any future remedial effort at the Site. However, no further federal actions are anticipated at this time.

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

An EE/CA is not required for a time-critical removal action.

**4. Applicable or Relevant and Appropriate Requirements (ARARs)**

Removal actions conducted under CERCLA are required, to the extent practicable considering the exigencies of the situation, to attain ARARs. In determining whether compliance with an ARAR is practicable, the lead agency may consider appropriate factors including the urgency of the situation and the scope of the removal action to be conducted. A table containing potential Site specific ARARs is provided as Attachment 4 to this Action Memorandum. The OSC requested that the state identify ARAR's, however, the state did not respond with any ARARs not listed in Attachment 4.

**5. Project Schedule**

This removal action is proposed to start in the fall of 2015. The EPA anticipates that soil excavation will take approximately three weeks. Construction of the treatment cell is estimated to take approximately two weeks. The EPA expects treatment to take between three and six months and anticipates treatment to begin during the spring of 2016. The EPA expects to complete the removal action in the fall of fiscal year 2016; however, as explained above, the removal could extend beyond this time period due to extreme weather or other circumstances.

**B. Estimated Costs\***

START	\$ 75,000
ESAT	\$ 25,000
ERRS	\$ 560,000
Contingency costs (20% of subtotal)	\$ 132,000
<b>Total Removal Project Ceiling</b>	<b>\$ 792,000</b>

\*EPA direct and indirect costs, although costs recoverable do not count toward the Removal Ceiling for this removal action. Liable parties may be held financially responsible for costs incurred by the EPA as set forth in Section 107 of CERCLA

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

Delayed or no action may increase the likelihood of PCP contamination of the drinking water aquifer.

**VIII. OUTSTANDING POLICY ISSUES**

None

## IX. ENFORCEMENT

A separate enforcement addendum provides a confidential summary of enforcement actions for the Site.

## X. RECOMMENDATIONS

This decision document represents the selected removal action for the Cowboy Timber Site in Big Horn County, Wyoming, developed in accordance with CERCLA as amended, and is 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) criteria for a removal and the CERCLA section 104(c) emergency exemption from the 12-month limitation, and I recommend your approval of the proposed removal action and 12-month exemption. The total project ceiling if approved will be \$792,000 and will be funded from the Regional removal allowance.

APPROVE



David Ostrander, Director  
Emergency Response and Preparedness Program

7/24/2015  
Date

DISAPPROVE

\_\_\_\_\_  
David Ostrander, Director  
Emergency Response and Preparedness Program

\_\_\_\_\_  
Date

### Attachments:

- |               |                |
|---------------|----------------|
| Attachment 1: | Site Map       |
| Attachment 2: | Site Photos    |
| Attachment 3: | Sample Results |
| Attachment 4: | ARARs          |

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# Attachment 1 – Maps



Note: The START Report map is mislabeled, Copper Arsenate Treatment should read “Copper Napthenate”.



Attachment 1 – Maps





Attachment 2 – Photos



Vault under the building that housed a portion of the retort vessel. Vessel rested on the shorter concrete pylons at left center and center frame. Water results are represented by CTSW02.



Test Pit 12. Near pit is the sump where the retort tank drained when opened. The primary drip pad extends behind the photographer. The retort vessel extended through the notch in the foundation onto the pylons shown in the previous photo.

## Attachment 2 – Photos



Staining: Test Pit 10. The presumed centerline of the retort vessel extends into the frame along the stain. Evidence of the significant downward migration potential of the contamination. Test pit 10 is located immediately in front of the foundation at the top of the previous photo.



Precipitate formed in CTGW02 sample when hydrochloric acid preservative was added. Material is physically consistent with PCP. Sample CTGW02-042413 had a PCP concentration of 107,000 ug/L.

### Attachment 3 – Sample Results

Sample ID	PCP Result (ug/Kg)
CTTP03_001	1,535,820
CTTP03_002	6,060
CTTP03_003	4,140
CTTP03_006	327,350
CTTP04_001	5,970
CTTP07_001	655,350
CTTP10_001	235,840
CTTP12-001	3,580,000
CTTP12-002	563,000
CTTP12-003	905,000
CTSB03-24	36,700
CTSB04-29	4,110
CTSB04-28	7,080
EPA RSL for Industrial Soil	2,700
WY Migration to Groundwater Standard	3.9

See START3 and START4 reports for full sampling result details.

CTTP\* indicates a test pit result  
 CTSB\* indicates a soil boring result

### Attachment 3 – Sample Results

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Attachment 4 – ARARs

Statute	Implementing Regulation	Status	Requirements	Comments
<b>FEDERAL ARARS</b>				
Resource Conservation and Recovery Act (RCRA)	40 CFR § 260, § 261, and § 262	Applicable	Standards for identification and generation of hazardous waste.	Applicable to wastes generated as part of the cleanup.
Land Disposal Restrictions RCRA	40 CFR 268 (subpart D)	Relevant and Appropriate	Movement of excavated materials to new location and placement in or on land will trigger land disposal restrictions for the excavated wastes.	Not applicable because the OSC is not moving waste to new location and generation is not occurring. However, since waste is being left in place, these are relevant and appropriate and will be followed to the extent practicable given the exigencies of the situation.
<b>STATE ARARS*</b>				

\*The State did not identify ARARs for this project in a timely manner.

