



UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION III

Technical Support Document

**Approval for Risk-Based Disposal of
Polychlorinated Biphenyls (PCBs)**

**Poor Charlie and Company, Inc.
Glasgow, West Virginia**

Prepared by
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Land and Chemicals Division
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List of Acronyms

AOC	Areas of Concern
AR	Administrative Record
COC	Contaminants of Concern
EPA	Environmental Protection Agency
FDRTC	Final Decision Response to Comments
GPRA	Government Performance and Results Act
LRS	Licensed Remediation Specialist
LUCNOR	Land Use Covenant/Notice of Restriction
MCL	Maximum Contaminant Level
PAH	Poly-aromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
PPM	Parts Per Million
RAO	Remedial Action Objective
RCRA	Resource Conservation and Recovery Act
RSL	Regional Screening Level
SB	Statement of Basis
SVOC	Semi-volatile Organic Compound
TSCA	Toxic Substances Control Act
VOC	Volatile Organic Compound
VRP	Voluntary Remediation Program
WVDEP	West Virginia Department of Environmental Protection

Section 1: Introduction

The United States Environmental Protection Agency (EPA) has prepared this Technical Support Document (TSD) to solicit public comment on its proposed remedy for the Poor Charlie Riverside Facility located in Glasgow, West Virginia (hereinafter referred to as the Facility or Site). EPA's proposed remedy for the Facility consists of the following components: 1) construction and perpetual monitoring and maintenance of a capped landfill to hold PCB remediation waste having PCB concentrations of 500 PPM or less; 2) compliance with and maintenance of land use restrictions to be implemented through institutional controls. This TSD highlights key information relied upon by EPA in proposing its remedy for the Facility.

The Facility is subject to EPA's PCB regulations under the Toxic Substances Control Act (TSCA). TSCA requires that facilities investigate and address releases of PCBs, usually in the form of soil or groundwater contamination, that have occurred at or from their property. EPA retains primary authority in the State of West Virginia for the TSCA Program.

EPA is providing a thirty (30) day public comment period on this TSD. EPA may modify its proposed remedy based on comments received during this period. EPA will announce its selection of a final remedy for the Facility in a Final Decision and Response to Comments (Final Decision) after the public comment period has ended.

Information on the TSCA program as well as a fact sheet for the Facility can be found by navigating <https://www.epa.gov/aboutepa/epa-west-virginia>. The Administrative Record (AR) for the Facility and this TSD contains all documents, including data and quality assurance information, on which EPA's proposed remedy is based. See Section 8, Public Participation, below, for information on how you may review the AR.

Section 2: Facility Background

2.1 Introduction

The Facility is a 17.02 acre active scrapyard located on an irregularly shaped, trapezoidal lot along U.S. Route 60, approximately 1.5 miles east of Glasgow, Kanawha County, WV. The site is adjacent and north of the Kanawha River. It is bordered by railroad tracks and U.S. Route 60 to the north, residences to the east, and a tailings pond to the west. The Facility has geographic coordinates of 38° 12' 20" North, 81° 24' 25" West. The Facility is currently in operation and has been used as a scrap metal salvage yard since 1949. Property improvements include two metal maintenance buildings, an administration trailer, paved and unpaved access and parking, storage and shearing areas, and above-ground storage tanks and associated piping. Access to the Facility is restricted by an 8-foot chain link fence surrounding the entire property.

The site has been the subject of several environmental site assessments (ESAs). On July 19, 2000, Poor Charlie submitted an application to the West Virginia Department of Environmental Protection – Office of Environmental Remediation (WVDEP-OER) for acceptance of the site into the West Virginia Voluntary Remediation Program (VRP).

The WVDEP established the VRP for the purpose of encouraging the voluntary cleanup of contaminated sites and redevelopment of abandoned and under-utilized properties. Many properties are not being productively used because of contamination or the perception of contamination. Because many of these properties are located in areas with existing industrial infrastructure, redevelopment of these sites can be less costly to society than developing pristine sites. VRP projects require the services of a Licensed Remediation Specialist (LRS) to oversee the performance of the environmental site assessment, risk assessment and development of a remediation work plan in accordance with the VRP. The goal of a VRP project is to receive a Certificate of Completion for the site.

2.2 Areas of Investigation

Five separate sampling events have been conducted at the Facility for the WVDEP VRP and PCB remediation assessment requirements.

2000/2001 Site Assessment Activities

The initial, comprehensive assessment of the site for the VRP was conducted in 2000/2001. Surface and subsurface soil samples were collected from the Facility property. Groundwater samples were collected during two separate groundwater sampling events. Surface water samples were collected from the adjacent Kanawha River. The sampled media were analyzed for VOCs, SVOCs, metals, and PCB content.

2008 Site Assessment Activities

The 2008 site assessment activities were conducted at the request of USEPA. The existing site monitoring wells and a newly installed monitoring well adjacent to MW-2 were sampled and analyzed for PCBs via Method 680 analysis. MW-2, MW-5, MW-6, and the newly installed monitoring well adjacent to MW-2 were also analyzed for carbon tetrachloride and its potential degradation products chloroform, chloromethane, and dichloromethane. Sediment samples were collected from the bed of the Kanawha River along the shoreline upstream, adjacent to, and downstream of the site. The samples were analyzed for PCBs, VOCs, SVOCs, Total Organic Carbon (TOC), and eight Resource Conservation and Recovery Act (RCRA) metals. Although included in the 2008 sampling work plan, no off-site surface soil samples were collected due to legal issues.

2012 Site Assessment Activities

The soil sampling in 2012 was conducted as part of the remedial actions for the western third of the site which were undertaken in 2012. The sampling protocols were described in the *Work Plan for PCB Remediation Waste - On-Site Consolidation And Disposal, Poor Charlie & Company, Inc., Riverside Yard* (POTESTA, 2009). Because of the amount of time that passed since the 2000/2001 assessments, and the continued operations at the site, a sampling plan was implemented to evaluate the entire surface area of the site for PCB and lead content in order to establish those areas where soil remediation would be required. A grid system (grid squares being 50' by 50') was surveyed at the site and surface soil samples were collected from the center point of each grid. Roughly two-thirds of the Riverside site was sampled and characterized in 2012 through the collection and analyses of 182 samples.

2013 Site Assessment Activities

Several large piles of soil/non-ferrous debris are present on the Facility property. Those piles were created during metal recovery activities at the site which consisted of processing site soil through a trammel machine to recover small pieces of metal that had been imbedded into the surface soil over time. Six individual piles of soil (also referred to as "trammel piles") were assessed in April 2013 under the December 2012 *Trammel Pile Material PCB Sampling Plan Riverside Facility Poor Charlie & Company, Inc.* A direct-push sampling rig was used to collect 63 subsurface soil samples from 20 separate locations distributed over the six piles. The samples were collected in 4-foot intervals from the top of the pile to the contact between the trammed material and native soil. A total of 53 samples were collected by field personnel using a stainless steel hand auger from depths between 2 to 4 feet below ground surface (bgs). The samples were analyzed for the COCs at the site requiring remediation, PCBs and lead.

Section 3: Summary of Environmental Investigations

3.1 Environmental Investigations

For all environmental investigations conducted at the Facility, groundwater concentrations were screened against federal Maximum Contaminant Levels (MCLs) promulgated pursuant to Section 42 U.S.C. §§ 300f et seq. of the Safe Drinking Water Act and codified at 40 CFR Part 141, or if there was no MCL, EPA Region III Screening Levels (RSL) for tap water for chemicals. Soil concentrations were screened against EPA RSLs for industrial soil. EPA also has RSLs to protect groundwater, and soil concentrations were also screened against these RSLs.

Soil Sampling

Previous assessments from five separate sampling events have shown that PCB concentrations in soils throughout the Facility property fall within a range of non-detect to 500 PPM. Only 2 from a total of 576 surface and subsurface soil samples analyzed from the Facility soils since 2000 had PCB concentrations greater than 500 PPM. A sample collected in 2001 had a PCB concentration of 608 PPM and a sample collected in 2013 had a PCB concentration of 538 PPM. Soil sample results are contained in Table 1.

Surface and Subsurface Soil Sampling – 2000/2001 Assessments

Surface soil samples were defined in the 2000/2001 assessments as soil collected from 0 to 2 feet bgs. From those soil borings where the recovery was insufficient to collect a sample from the 0 to 2 feet bgs interval, samples from the 0 to 4 feet bgs interval were submitted as the surface soil sample. Subsurface soil samples were those samples collected from a depth greater than 2 feet bgs. POTESta collected soil samples during the advancement of soil borings and installation of monitoring wells. POTESta used a Geoprobe® direct-push unit to advance 121 soil borings. The soil boring locations were spaced from 50 to 100 feet apart according to a biased and unbiased sampling plan. The soil borings were advanced to depths ranging from 8 feet to 20 feet bgs.

Surface Soil

POTESta collected 121 surface soil samples and submitted them for laboratory analyses.

VOCs – Surface Soil

POTESta submitted surface soil samples for analysis for 59 VOCs, 18 of which were detected at concentrations greater than their laboratory detection limits. The maximum concentration of vinyl chloride exceeded its *de minimis* indoor air screening value. However, vinyl chloride was only detected in 1 of 121 surface soil samples. Based on the low concentration and low frequency of detection, Potesta's Licensed Remediation Specialist (LRS) did not designate vinyl chloride as a COC in the surface soil. No VOCs exceeded their respective Industrial RBC screening values. No VOCs were designated as COCs in the surface soil.

SVOCs – Surface Soil

POTESta submitted surface soil samples for analysis for 71 SVOCs, 15 of which were PAHs. Twenty-one SVOCs were detected at concentrations greater than their laboratory detection limits. The concentrations of 1,2,4-trichlorobenzene and naphthalene exceeded their *de minimis* indoor air screening values. However, both of those COPCs were only detected in 3 of 121 surface soil samples. Based on the low concentration and low frequency of detection, the

LRS did not designate 1,2,4-trichlorobenzene or naphthalene a COC because of their vaporization potential.

The screening values for aniline, benzo(a)anthracene, benzo(b)fluoranthene, and naphthalene exceeded their Migration to Groundwater screening values. Neither naphthalene nor aniline were designed as COCs because of their very limited frequency of detection (both less than 3%). Benzo(a)anthracene and benzo(b)fluoranthene were designated as COCs. No SVOCs exceeded their respective Industrial RBC screening values.

PCBs - Surface Soil

POTESTA submitted surface soil samples for analysis for seven PCB Aroclors, three of which were detected at concentrations greater than their laboratory detection limits. The screening values for Aroclor 1016, 1254, and 1260 exceeded their Migration to Groundwater screening values and were designated as COCs. The screening values for Aroclor 1254 and 1260 also exceeded their Industrial RBCs.

Metals - Surface Soil

POTESTA submitted surface soil samples for analysis for the RCRA 8 metals and those eight metals were detected at concentrations greater than their laboratory detection limits. The screening values for arsenic, cadmium, lead, and mercury exceeded their Migration to Groundwater screening values and those compounds were designated as COCs. The screening value for lead also exceeded its Industrial RBC.

Subsurface Soil

POTESTA submitted 151 subsurface soil samples for laboratory analyses.

VOCs – Subsurface Soils

POTESTA submitted 151 subsurface soil samples for analysis for 59 VOCs, 13 of which were detected at concentrations greater than their laboratory detection limits. No VOCs exceeded their respective screening values in the subsurface soil.

SVOCs – Subsurface Soils

POTESTA submitted 151 subsurface soil samples for analysis for SVOCs, including PAHs. Eighteen SVOCs were detected at concentrations greater than their laboratory limits. The concentrations of benzo(a)anthracene, benzo(b)fluoranthene, and naphthalene exceed their Migration to Groundwater screening values but were not designated as COCs due to their low frequency of detection (each less than 3%). No SVOCs exceeded their respective Industrial RBC screening values. No SVOCs were designated as COCs in the subsurface soil.

PCBs – Subsurface Soil

POTESTA submitted 149 subsurface soil samples for analysis for seven PCB Aroclors, three of which were detected at concentrations greater than their laboratory detection limits. The screening values for Aroclors 1016, 1254, and 1260 exceeded their Migration to Groundwater screening values and were designated as COCs. No PCBs exceeded their respective Industrial RBC screening values.

Metals - Subsurface Soil

POTESTA submitted 151 subsurface soil samples for analysis for the RCRA 8 metals, and those eight metals were detected at concentrations greater than their laboratory detection limits. The screening value for lead exceeded its Migration to Groundwater screening value and was designated as a COC. No metals exceeded their respective Industrial RBC screening values.

2012 Surface Soil Sampling

Remedial actions at the site began in 2012. As approved in the *Work Plan for PCB Remediation Waste - On-Site Consolidation And Disposal, Poor Charlie & Company, Inc., Riverside Yard* (POTESTA, 2009) the targeted cleanup level for total PCBs at the Riverside site is 25 PPM (with an Aroclor 1254 component at 10 PPM). POTESTA survey crews established the center points of the grid system to assess the current state of PCB and lead contamination at the site beginning with the western third of the property.

Numbered survey stakes were located at the center-points of the imagined grid superimposed over the site. A total of 289 grid squares having 50-foot spacing were used to assess the entire site. One hundred and eighty-two (63%) of those grid squares were sampled in 2012. POTESTA field crews collected the surface samples from the western area (108 grids) in early June 2012. Surface soil for this portion of the site assessment was collected from the upper 6 inches of soil. The western third of the site was largely remediated in 2012 in accordance with the 2009 work plan. Sampling of the eastern and southern portions of the site (75 grids) was conducted in early October 2012. Other than sampling, no additional remedial actions have been conducted on that portion of the property.

2013 Trammel Pile Material Sampling Plan

The *Work Plan for PCB Remediation Waste On-Site Consolidation and Disposal* (POTESTA, 2009) contained a sampling plan to evaluate the surface soil at the Riverside facility based on a grid system in which each sample would represent the soil in an area 50 feet by 50 feet in size to a depth of 1 foot bgs. However, that plan did not provide for the assessment of piles of soil generated as a result of recovering salvageable metals that had been ground into the upper layer of earth at the site. Those piles are referred to in this report as trammel piles. There are six individual piles that were assessed under the *Trammel Pile Material PCB Sampling Plan Riverside Facility Poor Charlie & Company, Inc.*, (POTESTA, 2012). POTESTA used a survey

crew to measure the piles. Those measurements were used to calculate the total volume of soil contained in the piles: 11,258 cubic yards (yd³). The 130 proposed sample locations were designed to result in a sampling frequency of one sample for every 87 yd³ of soil. That volume (87 yd³) is similar to that contained in a 50-foot by 50-foot by 1-foot grid square (92 yd³) currently being used to assess PCB content in the site soil under the *Work Plan for PCB Remediation Waste On-Site Consolidation and Disposal* (POTESTA, 2009). POTESTA field personnel used a stainless steel hand auger to collect soil from depths between 2 to 4 feet bgs. A direct-push sampling rig was used to collect subsurface soil samples at separate locations distributed over the six piles. A discrete sample was collected from the base of each 4-foot interval of the pile from the upper surface to the contact between the trammed material and native soil.

The samples were analyzed for the COCs at the site requiring remediation: PCBs and lead.

Groundwater Investigation

A total of 10 monitoring wells have been installed on-site since 2001 and have been used to evaluate Facility groundwater quality over several years in two identified water bearing zones. The wells are screened to measure groundwater quality in the shallow overburden near the water table or deeper overburden. Groundwater has been tested for VOCs, SVOCs, PCBs and metals.

Groundwater – 2001 Assessments

The 2001 groundwater samples were collected in February and September. The samples were analyzed for VOCs, SVOCs, PCBs, and metals.

VOCs – Groundwater

Groundwater samples were analyzed for 59 VOCs, two of which were detected at concentrations greater than their laboratory detection limit. Carbon tetrachloride and chloroform were detected at concentrations greater than their Groundwater RBCs. However, additional sampling and analyses conducted in 2008 did not identify detectable concentrations of those two constituents. Therefore, neither carbon tetrachloride nor chloroform was designated as a COC in groundwater by the LRS.

SVOCs – Groundwater

Groundwater samples were analyzed for 60 SVOCs, 15 of which are PAHs. One SVOC, bis (2-ethylhexyl) phthalate, a common laboratory contaminant, was detected at a concentration greater than its laboratory detection limit in the February 2001 sampling event in MW-5, but not detected in that well in September 2001. Based on the low concentration and inconsistent detection, the LRS did not designate bis(2-ethylhexyl)phthalate as a COC in groundwater.

PCBs – Groundwater

Groundwater samples were analyzed for seven PCB Aroclors, none of which were detected at concentrations greater than their laboratory detection limits.

Dissolved Metals – Groundwater

Groundwater samples were analyzed for dissolved RCRA 8 metals, six of which were detected at concentrations greater than their laboratory detection limits. Cadmium was detected in February at a concentration greater than its 2014 Groundwater RBC, but was not detected in the September 2001 sampling event. Cadmium was not designated as a COC in groundwater. Arsenic was detected in one well at a concentration greater than its Groundwater RBC and designated as a COC.

Groundwater – 2008 Assessment - Adequacy of PCB and Carbon Tetrachloride Assessment

In correspondence and discussions with the USEPA prior to 2008, concerns were raised as to whether the site was adequately assessed to identify the source of carbon tetrachloride detected during the 2001 assessment of groundwater at the site, and whether the relatively elevated laboratory detection limits resulted in an underestimate of the assessment of PCBs in the groundwater. Carbon tetrachloride was detected in the groundwater at MW-2 in the February and September 2001 sampling events at concentrations exceeding its Groundwater RBC for West Virginia. Carbon tetrachloride was also detected in the February sample collected from MW-5, but at a concentration less than its Groundwater RBC. It was not detected in that same well in the September 2001 sampling event. PCBs were not detected in the groundwater samples from neither the February nor September 2001 sampling events. Carbon tetrachloride was included as a target analyte in the surface and subsurface soil samples analyzed during the 2001 ESA. POTESTA reviewed the analytical results and did not find evidence of carbon tetrachloride being detected in the surface or subsurface soil at the site. This includes soil samples collected from MW-2 and five other soil borings located within 250 feet of MW-2. No discernable carbon tetrachloride plume has been identified. A review of PCBs in the subsurface samples has not identified significant concentrations of PCBs at depth greater than 4 feet bgs. There is no evidence that carbon tetrachloride, as a solvent, has mobilized PCBs through the subsurface soil to groundwater. The 2008 groundwater samples were collected from 7 of the 10 new and existing monitoring wells monitoring wells in accordance with procedures in *Low-Flow (Minimal Drawdown) Ground-water Sampling Procedures*, from *EPA Ground Water Issue*, April 1996. Groundwater samples were submitted for analysis of PCBs via Method 680. Groundwater samples from MW-2DR and MW-6 were submitted for analysis of carbon tetrachloride, chloroform, chloromethane, and dichloromethane analysis via Method 8260. No target analytes were detected in the groundwater samples from the 2008 supplemental ESA.

The following table summarizes the contaminants of concern (COCs) that have been designated for remediation in the various site media:

Medium	COC	Screening Standard
Surface Water – Kanawha River	None	West Virginia Water Quality Standards, Ecological Screening Values
Sediment	Aroclor 1254, Aroclor 1260	Ecological Screening Values
Groundwater	Arsenic	Groundwater RBCs
Surface Soil	Lead, Aroclor 1016, Aroclor 1254, Aroclor	Industrial RBCs
Surface Soil	Benzo(a)anthracene, Benzo(b)fluoranthene, Arsenic, Cadmium, Lead, Aroclor 1016, Aroclor 1254, Aroclor 1260	Migration to groundwater
Subsurface Soil	None	Industrial RBCs
Subsurface Soil	Lead, Aroclor 1016, Aroclor 1254, Aroclor 1260	Migration to Groundwater

3.1.3 Human Health Risk Assessment and Evaluation of Exposure Pathways

The potential pathways of chemical release and transport, as well as the human activity patterns, were used to evaluate potential human exposures at the site. A human exposure pathway consists of:

- Source of contaminant
- Mechanism of contaminant release to the environment
- Transport or exposure medium containing the contaminant
- Exposure point where receptors can contact the exposure medium
- Exposure route (i.e., inhalation, absorption, or ingestion)
- Receptor

Exposure can only occur if these six elements are present. Potential routes of exposure to human receptors at the site include:

- Ingestion of soil, dust, or groundwater
- Dermal contact with soil, dust, or groundwater
- Inhalation of particulate-bound chemicals

The following groups are considered to be potential human receptors for exposure from the site:

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- on-site industrial workers (inside), - on-site indoor workers evaluated were those at the site involved in indoor day-to-day activities associated with the business. This group also includes those office workers interacting with vendors.
- on-site industrial workers (outside) - on-site outdoor workers evaluated were those at the site involved in day-to-day activities associated with the business. The potential for exposure to on-site outdoor workers is greater than that for indoor workers, visitors/trespassers, and off-site receptors. As such, if residual conditions do not present a significant risk to outdoor workers, the same is presumed to be the case for those other named human receptors other than construction workers.
- on-site construction workers, - On-site construction workers were evaluated for risks from short-term, but more intense exposure to materials that will be placed under the engineered cap. This group includes those workers operating excavating equipment as part of the proposed remedial actions.
- on-site visitors, - on-site visitors include persons who periodically are on-site as part of their business activities. Such visitors can include truck drivers, delivery persons, and members of the general public who, from time-to-time, deliver recyclable materials to the site. In most cases, there is no direct contact to impacted soil by this group of receptors. No significant exposure risks have been identified for visitors/trespassers. Less than 25 residences are located within a one-quarter mile radius of the site. There is no direct contact pathway with the subject site. Air monitoring in 2012 did not identify a risk to those receptors from contaminants carried off-site by the wind during remedial activities.
- off-site recreational boaters/anglers - Off-site boaters and anglers may be exposed to surface water in the Kanawha River. Dermal exposure to the river water is likely to be the most common form of exposure. Incidental ingestion of river water may also occur. Sample data did not identify a risk to receptors from exposure to the Kanawha River.

This exposure assessment for potential human receptors uses the frequency, duration, and pathways by which human populations may be exposed. Potesta utilized WVDEP and USEPA guidance documents in performing the exposure assessment.

Chemical compounds in soil and groundwater samples were evaluated, as appropriate, and in a manner specified by the EPA in the Facility Risk Assessment (RA) which was completed as part of the Risk Based Work Plan. COCs were identified for direct contact with soil and groundwater based on a comparison of the analytical data to RSLs. The RA indicated that the total non-cancer hazard indicators (HIs), and target organ-specific hazard quotients (HQs), are less than 1 and the potential cumulative cancer risks are below the target risk of 1×10^{-4} for all receptors exposed to soil and groundwater associated with the Facility property. These data indicates that there is negligible potential for adverse effects to current or future

workers or visitors at the Facility. The RA determined that there was no excessive risk to human health associated with indoor air exposures in existing buildings provided the Facility land use remained industrial or commercial.

In summary, the RA concluded there is negligible potential for adverse effects to current or future worker receptors or visitors exposed to soil or groundwater associated with the Facility.

3.2 Environmental Indicators

Under the Government Performance and Results Act (“GPRA”), EPA has set national goals to address RCRA corrective action facilities. Under GPRA, EPA evaluates two key environmental clean-up indicators for each facility: (1) Current Human Exposures Under Control, and (2) Migration of Contaminated Groundwater Under Control. The Facility is expected to meet both of these indicators upon completion of the proposed risk-based cleanup workplan.

Section 4: Remedial Action Objectives

Remedial action objectives are a general description of what remediation at the site is intended to accomplish. RAOs consider public health and environmental protection concerns in compliance with regulatory requirements governing the site. RAOs consider the exposure point concentrations or risk levels for contaminants to be accomplished at the site. RAOs are used as a basis to design the remedial alternatives to be considered for the site. EPA’s Remedial Action Objectives for the specific environmental media at the Facility are the following:

RAOs – Surface Water

No remedial actions are proposed or required for surface water.

RAOs – Sediment

Although two PCB Aroclors were designated as COCs in the Kanawha River sediment no remedial actions are proposed due to the levels detected and areal distribution of those constituents. Removal actions would likely result in more harm to the river ecology than the potential risk from those PCBs. The proposed remedial actions for the surface soil will greatly reduce the potential for PCBs attached to soil particles to be carried in the Kanawha River via storm water runoff.

RAOs – Groundwater

The LRS designated arsenic as a COC in the groundwater based on its maximum concentration exceeding its Groundwater RBC. The RAO for groundwater is to sever the direct contact pathway to human receptors. The LRS concluded the RAO for groundwater can be achieved by using institutional controls in the form of a LUCNOR.

RAOs – Surface Soil

PCBs and lead have been designated as COCs in the surface soil for industrial receptors. The remediation of the soil will be designed to reduce exposure to COCs by potential industrial receptors, or to reduce the maximum concentrations of the COCs to levels at or below the applicable screening values.

RAOs – Subsurface Soil

No remedial actions are required for the subsurface soil.

Section 5: Proposed Remedy

Introduction

Under this proposed remedy, some contaminants remain in the soil and groundwater at the Facility above levels appropriate for residential uses. Because some contaminants remain in the soil and groundwater at the Facility at levels which exceed residential use, EPA's proposed decision requires the compliance with and maintenance of soil and groundwater use restrictions. EPA proposes to implement the land and groundwater restrictions necessary to prevent human exposure to contaminants at the Facility through a LUCNOR.

Soils

EPA's proposed remedy for the Facility consists of compliance with and maintenance of land use restrictions. Under EPA's proposed remedy, the following use restrictions will be implemented for soils:

Areas shall be restricted to commercial and/or industrial purposes and shall not be used for residential purposes unless it is demonstrated to EPA that such use will not pose a threat to human health or the environment or adversely affect or interfere with the selected remedy and the Facility provides prior written approval from EPA for such use.

This plan proposes placing PCB Remediation Waste at concentrations of 50 PPM to 500 PPM under engineered caps at the Facility. Previous assessments have shown the PCB Concentrations in soil at the Facility fall within this range. Only 2 of 576 surface and

subsurface soil samples analyzed from the Facility since 2000 had PCB concentrations greater than 500 PPM. A sample collected in 2001 had a PCB concentration of 608 PPM. A sample collected in 2013 had a PCB concentration of 538 PPM. The average concentration of PCBs in the trammel piles is 100 PPM. PCB contaminated soil will be relocated and consolidated on-site and covered by an engineered cap to complete the project. Whether the PCB remediation waste is consolidated into a single location or several individual on-site locations the same style of engineered cap will be installed as cover. The engineered cap will be constructed using geotextile fabrics topped by soil or asphalt. The use of geotextile fabrics will result in a cap meeting the permeability, liquid limit, and plasticity requirements of 761.75. A land use restriction will be recorded with the deed for the property prohibiting residential uses of the site and requiring perpetual maintenance of the cap. There will be annual inspection and reporting requirements for the cap and other use restrictions required by the WVDEP as part of the West Virginia Voluntary Remediation Program.

Cap Construction

The on-site disposal area will be constructed in compliance with 40 CFR 761.61 and 761.75. The on-site PCB disposal cell will most likely be constructed along the northern property line in the western portion of the site. The size and location are yet to be established, but will be based upon the amount of remediation waste generated and associated contingencies. The PCB disposal cell will be sited in a location above the 100-year flood plain elevation.

- Soil needing to be excavated in order to prepare the disposal cell will be sampled for total PCB and lead content. Soil containing less than 25 mg/kg PCBs and 1,800 mg/kg lead may be relocated on-site and used without restrictions, including as cover for the PCB disposal cell. Soil containing greater than 25 PPM PCBs or 1,800 PPM lead will be managed as other remediation waste.
- The PCB Remediation Waste material will be placed in individual lifts (approximately 8 inches in thickness) and compacted by heavy compaction equipment.
- When the volume of the disposed material has reached the design capacity of the cell, a soil layer 6 to 12 inches in thickness will be placed over the PCB Remediation Waste material followed by engineered geotextile membrane and composite to prevent the infiltration of and promote the shedding of storm water from the cap. The engineered fabrics will be covered by a minimum of 18 inches of soil. The soil layers will be placed in individual lifts (approximately 6 inches thick) and compacted using heavy equipment. The uppermost soil layer will be vegetated with a dense grass.
- A disposal cell may be converted into a parking lot or other area designated for bulk storage of materials, but not used for routine human occupation (i.e., less than 16 hours per week). The parking lot/storage area cap will be comprised of an aggregate base course above the geotextile layer as specified in West Virginia Division of Highways (WVDOT) Specification Section 401

type 401001 and a minimum of 6 inches of asphalt specified to WVDOH Specification Section 402 type 402001, or other similarly impervious material.

- No habitable structures will be erected over a capped disposal cell.
- The asphalt and the soil layer will be constructed in a manner that promotes shedding of storm water falling on the cell without percolating through the cap.
- Appropriate temporary and permanent drainage and erosion and control methods will comply with the NPDES permit requirements.

Cap Maintenance

The requirements for maintenance of the disposal cell will be established through an agreement between the owner/operator of the site and the USEPA and WVDEP. The maintenance plan will establish the following:

- A time frame and process for inspecting the engineered cap.
- Parameters for initiation of maintenance on asphalt and soil cap.
- General maintenance practices (i.e. the type and placement of patching asphalt, for back fill soil cover material, for revegetation, etc.).
- Coordination and process for refurbishing or upgrading of consolidation areas if serious issues (e.g. slope stability, drainage, etc.) develop.
- Monitoring wells will be installed along the downgradient side of the disposal cell. The number and spacing requirements for those wells will be established based on the size of the disposal cell. Ongoing sampling will be conducted with the schedule and sampling parameters approved by the USEPA and WVDEP.
- An annual Operations and Maintenance report will be submitted to the WVDEP annually as a requirement of the VRP.

Section 6: Evaluation of Proposed Remedy

This section provides a description of the criteria EPA used to evaluate the proposed remedy consistent with EPA guidance. The criteria are applied in two phases. In the first phase, EPA evaluates three decision threshold criteria as general goals. In the second phase, for those remedies which meet the threshold criteria, EPA then evaluates seven balancing criteria.

Threshold Criteria	Evaluation
1) Protect human health and the environment	<p>EPA's proposed remedy for the Facility protects human health and the environment by eliminating, reducing, or controlling potential unacceptable risk through the consolidation and disposal of PCB remediation waste in an onsite, capped, waste management unit, and implementation and maintenance of use restrictions. EPA is proposing to restrict land use to commercial or industrial purposes at the Facility.</p> <p>Implementation of an excavation and consolidation remedy will improve the environmental quality of the site by reducing the concentration, mobility, and risk posed by the COCs in exposed soil. Capping will improve the environmental quality at the site by reducing risk associated with the contaminants when the exposure pathway has been severed. Capping will also reduce the probability of migration of the COCs due to leaching or runoff. Isolation of soil through engineering and institutional controls will reduce the risk to human receptors by eliminating the exposure pathway.</p>
2) Achieve media cleanup objectives	<p>EPA's proposed remedy meets the media cleanup objectives based on assumptions regarding current and reasonably anticipated land and water resource use(s). The remedy proposed in this SB is based on the current and future anticipated land use at the Facility as commercial or industrial.</p>
3) Remediating the Source of Releases	<p>In all proposed remedies, EPA seeks to eliminate or reduce further releases of hazardous wastes and hazardous constituents that may pose a threat to human health and the environment. Upon completion of the workplan, EPA expects</p>

	<p>the Facility will meet this objective.</p> <p>PCB-contaminated soils between 50 and 500 PPM will be consolidated and capped in an onsite landfill, eliminating, to the extent practicable, further releases of hazardous constituents from on-site soils. The Risk Assessment for the Facility concluded that there would be no risk associated with the soil as long as the Facility remains industrial.</p>
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Section 6: Evaluation of Proposed Remedy (continued)

Balancing Criteria	Evaluation
4) Long-term effectiveness	Groundwater is not used on the Facility for drinking water, and no down gradient users of off-site groundwater exist. Therefore, the proposed long term effectiveness of the remedy for the Facility will be maintained by the continuation of the groundwater monitoring program and implementation of use restrictions. Land use restrictions and perpetual cap maintenance for the waste management unit will be an effective remedy for the site.
5) Reduction of toxicity, mobility, or volume of the Hazardous Constituents	The reduction of toxicity, mobility and volume of hazardous constituents will be achieved through consolidation and capping of the remediation waste at the site. In addition, annual groundwater monitoring and reporting will be implemented to ensure the effectiveness of the cap.
6) Short-term effectiveness	EPA's proposed remedy does not involve any activities, such as construction or excavation that would pose short-term risks to workers, residents, and the environment. EPA anticipates that the land and groundwater use restrictions will be fully implemented shortly after the issuance of the Final Decision and Response to Comments. The groundwater monitoring program is already in place and will continue.
7) Implementability	EPA's proposed remedy is readily implementable. The groundwater monitoring is already in place and operational. EPA proposes to implement the use restrictions through a Land Use Covenant and Notice of Restriction.
8) Cost	EPA's proposed remedy is cost effective. The cost associated with this proposed remedy are far less than a traditional dig and haul remediation, involving offsite transportation and disposal of remediation waste. Annual monitoring, reporting and perpetual cap maintenance cost estimates are minimal (estimated cost of \$6,000 per year).
9) Community Acceptance	EPA will evaluate community acceptance of the proposed remedy during the public comment period, and it will be described in the Final Decision and Response to Comments.
10) State/Support Agency Acceptance	WVDEP has reviewed and concurred with the proposed remedy for the Facility.

Section 7: Financial Assurance

EPA has evaluated whether financial assurance for corrective action is necessary to implement EPA's proposed remedy at the Facility. EPA's proposed remedy requires additional engineering actions to consolidate and dispose of remediation waste containing PCBs at 50 to 500 PPM under an engineered cap at the facility. Perpetual monitoring and cap maintenance will be required to ensure the integrity of the cap remains acceptable. Given that the costs of implementing cap monitoring and maintenance, institutional controls, and groundwater monitoring costs at the Facility will be minimal (estimated cost of \$6,000 per year), EPA is proposing that no financial assurance be required.

Section 8: Public Participation

Interested persons are invited to comment on EPA's proposed remedy. The public comment period will last thirty (30) calendar days from the date that notice is published on the EPA's website. Comments may be submitted by mail, fax, or electronic mail to Mr. Rice at the contact information listed below.

The Administrative Record contains all the information considered by EPA for the proposed remedy at this Facility. The Administrative Record is available at the following locations:

U.S. EPA Region III
1060 Chapline Street
Wheeling, WV 26035
Contact: Mr. Scott Rice (3LC61)
Phone: (304) 231-0501

Email: rice.scott@epa.gov

West Virginia Department of Environmental Protection
601 57th St SE,
Charleston, WV 25304
Contact: Mr. David Long
(304) 926-0440

Date: _____

John A. Armstead, Director
Land and Chemicals Division
US EPA, Region III

Section 9: Index to Administrative Record

Poor Charlie and Company Riverside Site Administrative Record Index

July 12 2005; Potesta's Workplan Notification/Certification for Poor Charlie Riverside Site

August 5, 2005; EPA deficiency letter to Potesta

September 23, 2005; Potesta follow-up letter to EPA

October 12, 2005; Potesta follow-up letter to EPA

November 9, 2005; Potesta follow-up letter to EPA

December 1, 2005; EPA response deficiency letter for risk-based workplan

August 1, 2006; Potesta letter to EPA responding to 23 comments on previous deficiency letter

September 29, 2006; EPA letter to Potesta, indicating responses to Potesta's responses to EPA's 23 comments

May 31, 2007; Potesta Workplan for Risk-based PCB Remediation Waste on-site consolidation and disposal.

November 21, 2007; Potesta Supplemental Assessment Work Plan

August 15, 2008; RJ Recycling (Poor Charlie and Company) Health and Safety Procedures for their salvage facilities including Riverside

August 21, 2008; Potesta Revised Supplemental Site Assessment Workplan

September 3, 2008; Potesta letter to EPA requesting EPA consideration for a workplan that would produce a residual carcinogenic risk to industrial receptors of between 1/100000 and 1/10,000

February 18, 2009; Potesta Supplemental Environmental Site Assessment Report

December 3, 2009; Potesta submittal for Self-Implementing PCB Remediation Waste Cleanup and Disposal Workplan

March 5, 2010; EPA Approval for the Dec. 3, 2009 761.61(a) PCB Remediation Waste Cleanup and Disposal Workplan

Technical Support Document

December 7, 2012; Potesta Trammel Pile Material Sampling Plan

January 24, 2013; Potesta 2012 PCB Remediation Waste Activities Report

November 4, 2013; Potesta Modification to PCB Remediation Waste Workplan (including sampling analysis from trammel pile samples)

September 22, 2014; Potesta Modified Risk-based Workplan for Consolidation and Disposal of PCB Remediation Waste up to 500 ppm.

November 11, 2014; Potesta e-mail to EPA requested information regarding conceptual cap design and other requested information.

West Virginia Department of Environmental Protection Administrative Records Related to the Poor Charlie and Company Riverside Site:

July 27, 2000; WVDEP Letter to Poor Charlie and Company verifying acceptance of the Riverside Site into WVDEP Voluntary Remediation Program (VRP)

October 11, 2000; WVDEP – Poor Charlie and Company Riverside Site Voluntary Remediation Program (VRP) Voluntary Remediation Agreement

December 8, 2000; WVDEP Comments to Poor Charlie and Company regarding the Site Investigation Workplan for the Poor Charlie and Company Riverside Site

March 22, 2002; WVDEP Comments to poor Charlie and Company regarding the Conceptual Site Model and Site Assessment Report for Poor Charlie and Company Riverside Site

October 18, 2004; WVDEP Comments on the Conceptual Site Model and Site Assessment Report for Raleigh Junk – Riverside Yard (Poor Charlie and Company Riverside Site)

January 30, 2008; WVDEP Comments on the November 17, 2007 Potesta Supplemental Assessment Workplan

