



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

SUPERFUND &  
EMERGENCY  
MANAGEMENT DIVISION

July 18, 2022

MEMORANDUM

**SUBJECT:** Final Remedy Determination -- Western Processing Co., Inc. Superfund Site

**FROM:** Piper Peterson, Remedial Project Manager  
Ted Yackulic, Assistant Regional Counsel

**THRU:** Kira Lynch, SEMD Branch Manager **KIRA LYNCH**

Digitally signed by KIRA LYNCH  
Date: 2022.08.07 07:35:43 -07'00'

**TO:** Western Processing Co., Inc. Superfund Site File

The following information from the Western Processing Co., Inc., Superfund Site decision documents, Consent Decrees and the Final Site Optimization Report findings indicate that the remedy for this site is a final cleanup decision.

EPA issued several cleanup decisions for the Site between 1984 and 1986. EPA issued its first Record of Decision (ROD) for the Site on August 5, 1984. The selected remedial actions are described at pages 3 and 4 of 1984 ROD (see specific remedial elements below). The Record of Decision for Operable Unit 01 identified the surface clean-up and stormwater control project. The main elements of the selected remedy included—characterize all materials identified for removal, remove all bulk liquids, drummed liquids, and waste piles to a permitted off-site facility for disposal or incineration; remove and properly dispose of all transformers and substation equipment; demolish and remove to a permitted off-site facility all on-site buildings and dismantle all on-site bulk storage tanks.

EPA selected additional remedial action for the Site in an interim Record of Decision (ROD) on September 25, 1985. The remedial actions selected in the 1985 ROD included the removal and off-Site disposal of highly contaminated soils and non-soil materials from Area 1 of the Site; the removal and off-Site disposal of contaminated sediments from Mill Creek; and the construction, operation/maintenance of a groundwater collection and treatment system and enhancements to the stormwater controls. The groundwater pump and treat system was installed with the intention that site groundwater would be pumped for 5 years (called the initial phase of system operation) with the intent to protect the aquatic organisms in Mill Creek and the east drain, and to prevent the spread of, and if possible, remove the contamination from the shallow aquifer. The selected actions are described at pages 5 and 6 of the 1985 interim ROD (see Attachment 1).

The 1985 ROD stated "...If additional remedial actions **are determined to be necessary, a Record of Decision will be prepared for approval of the future remedial action**" (emphasis added). On September 4, 1986, EPA signed a ROD Amendment (RODA) that selected additional remedial actions for the Site. The 1986 RODA was clearly selected to enhance the 1985 interim ROD. *See*, pages 1-3, and table 1 of the 1986 RODA.

The context of what other Site activities occurring before and after the 1986 RODA was issued is central to the inquiry of whether the 1986 RODA was a final ROD. First, the 1986 RODA followed the

completion of the Supplemental Remedial Investigation report (SRI, 1986) for the Site. The SRI summarized groundwater monitoring results collected during the summer of 1985 and provided additional information for EPA to a ROD selecting “additional remedial actions” as contemplated by the 1985 ROD. Second, after the 1986 ROD was issued, the United States negotiated a consent decree with approximately 190 potentially responsible parties (PRPs).

The consent decree negotiations were successful and on October 16, 1986, the United States, on behalf of EPA entered into a second Consent Decree for the Site with 190 CERCLA responsible parties (Site RPs), *see, United States v. Standard Equipment, Inc. et al* (C83-252M)( U.S.D.C. W.D. WA 1986). The 1986 Consent Decree resolved EPA claim for past response costs and Federal Oversight Cost (costs the United States incurs overseeing implementation of the 1986 Consent Decree) and CERCLA injunctive relief against the Site RPs. The 1986 Consent Decree also provided the Site RPs with a very broad covenant not to sue that is effective upon completion of the Work required by the Consent Decree. *See, Section XIX (Covenant Not to Sue) of the 1986 Consent Decree at pages 34 – 38.* The 1986 Consent Decree required the Site RPs to, among other things, implement remedial actions selected in the 1986 ROD. EPA has previously certified completion of the remedial actions required by the RODs issued during the 1980s and believes the Site RPs have met the performance standards identified in the 1986 Consent Decree. The latter point significantly decreases the possibility of the United States reopening the 1986 Consent Decree to assert reserved claims against the Site RPs. The breadth of the commitments made by the United States and Site RPs strongly supports a conclusion that the 1986 ROD was intended to be a final Site ROD.

In addition, subsequent technical evaluations of the Site also support the conclusion that the 1986 RODA is a final ROD.

On November 22, 1995, Ecology and EPA conceptually approved the Alternative Remedy in the Petition submitted by the PRPs **as it was fundamentally consistent with the 1986 RODA**, significantly reduced remediation costs and still was protective of human health and the environment. The 1995 ESD identified a shift in approach from pump and treat to groundwater containment, installation of the RCRA C cap after additional soil excavation, implementation of institutional controls, and long-term O&M of groundwater and the cap.

EPA has conducted six five-year reviews on this Site. In general, these reviews have concluded that the selected and implemented remedial actions are operating as intended, and the implemented remedial actions are protective of human health and the environment. See Attachment 2.

Recently, the EPA Site Optimization team (“Team”) reviewed this site to determine if there were site optimization recommendations. The Team’s June 22, 2022, Optimization Review Report for the Site found that the remedy was successful and protective of human health and the environment. In response to whether additional activities could be taken to accelerate groundwater remediation, they stated the following –

First, an aggressive approach for VOCs, such as in-situ biological treatment, in-situ oxidation, or in-situ thermal remediation, would not necessarily be effective at addressing other known COCs,

including zinc, manganese, 1,4-dioxane, OPMO, and HPMO. Furthermore, the extent and magnitude of 1,4-dioxane within Sector 1 (Zone A) groundwater is uncertain.

Second, Western Processing accepted substantial and varied chemical wastes from a variety of industries. Although VOCs, such as TCE and its degradation products, are identifiable, straightforward to treat, and straightforward to monitor, concerns may remain about other contaminants that have yet to be identified that could be present within Sector 1 soil and groundwater. For example, 1,4-dioxane was not considered a groundwater contaminant at the time of the ROD or ESD, yet it is now known to be present, drives the groundwater extraction at U1 and U2, and would not have been susceptible to several typical VOC treatment technologies. Per- and Polyfluoroalkyl Substances (PFAS), which have been identified at many CERCLA sites across the country, are other examples of contaminants that are often present but would not be susceptible to typical remedial approaches for other COCs. OPMO and HPMO are two unique COCs to Western Processing that have been detected at this Site. OPMO and HPMO have not been detected at any of the other more than 100 CERCLA sites that the optimization team has reviewed. Under circumstances where there is a reasonable potential for yet-to-be-identified contaminants to be present and an effective containment remedy already exists, the optimization team is concerned about a potential loss of protectiveness if the Site adopts a more aggressive remedy that targets only known COCs and transitions away from containment. (pp.32-33)

Third, In response to whether the site remedy is a final remedy or an interim remedy, they stated, “This type of policy determination is beyond the scope of the optimization review. However, the optimization review team notes that the ROD Amendment (EPA, 1986a) states in multiple places that the decision pertained to a “final remedy” or “final remedial action” (see Section 3.3 of this optimization review report).” The optimization review team also notes that, from a technical perspective, the installation of a RCRA cap after the intended hot-spot excavation was completed is consistent with an intent to implement a “final remedy” in that portion of the Site. The optimization review team further notes that the performance of the current remedy appears to have been (and continues to be) successful in achieving the intended outcome in the ROD Amendment (EPA, 1986a) and subsequent ESD (EPA, 1995).” (p. 29).

Based on the foregoing analysis, EPA has concluded that the 1986 RODA is a final ROD.<sup>1</sup>

Attachment 1 – Source Documentation of Early Actions, RODs and ESD  
Attachment 2 – Five-Year Review Protectiveness Statements, 1998-2018

---

<sup>1</sup> Nothing in this memorandum is intended to limit the authority EPA has pursuant to CERCLA and the National Contingency Plan, and as appropriate in the 1986 Consent Decree.

## Attachment 1

### WESTERN PROCESSING INC., SUPERFUND SITE SOURCE DOCUMENTS

July 2022

(NOTE: **Source Area material removed**—It has been stated that because source area soil remains on-site, it is necessary to remove this material in order for the remedy to be considered “final.” See the underlined text in Selected Remedy bullets below for all selected remedy elements which address source area material. Primarily, the Removal Action and the 1984 ROD removed the most amount of contaminated material on-site. Cleanup activities required by the 1985 ROD, 1986 RODA and 1995 ESD, further removed hot-spots of elevated contamination levels in soil.)

#### **Removal Action—April to July 1983:**

Work began in late April 1983 and was completed on July 1, 1983, and cost \$1.4 million. The removal eliminated the extremely high hazards of the site and stabilized the site much as possible to prevent additional degradation of the soil and groundwater. Over 900,000 gallons and 1,900 cubic yards of hazardous substances were removed and sent to approved hazardous waste disposal sites. Many other hazardous substances were stabilized and left on site. See Table 1 for materials removed from the site. The Western Processing facility was permanently closed by court order in July 1983 and was listed on EPA’s National Priorities List in September 1983.

Table 1: Material Removed from the Western Processing Site during the April-July 1983 Removal

<b>Material Type</b>	<b>Volume</b>
Solidified Paint Sludges/Flammables	1,900 cubic yards
Flammable Liquids in Bulk and Drums	59,000 gallons
Combustible Liquids in Bulk	85,000 gallons
Recycled Solvents	25,000 gallons
Corrosive Liquids in Bulk and Drums	50,000 gallons
Non-Corrosive Oxidizers in Drums	660 gallons
PCB Liquids and PCB Contaminated Materials	127 drums
Wastewater from Ponds	250,000 gallons

#### **1984 ROD (OU 01) Selected Remedy:**

The Record of Decision for Operable Unit 01 identified the surface clean-up and stormwater control project. The main elements of the selected remedy included—characterize all materials identified for removal, remove all bulk liquids, drummed liquids, and waste piles to a permitted off-site facility for disposal or incineration; remove and properly dispose of all transformers and substation equipment; demolish and remove to a permitted off-site facility all on-site buildings and dismantle all on-site bulk storage tanks.

## **Attachment 1**

### **WESTERN PROCESSING INC., SUPERFUND SITE SOURCE DOCUMENTS**

July 2022

The main elements of the selected alternative were:

1. On-site and perimeter monitoring of air quality during remedial activities.
2. Removal of all bulk liquids, drummed liquids, and waste piles to a permitted off-site facility for disposal or incineration.
3. Removal and proper disposal of all transformers and substation equipment.
4. Demolition and removal to a permitted off-site facility of all on-site buildings.
5. Dismantling of all on-site bulk storage tanks. If tanks are determined to be structurally sound, such tanks will be thoroughly cleaned and sold for scrap metal.
6. All other surface debris will be removed and disposed.
7. Stormwater will be controlled and treated prior to discharge before, during, and after the surface cleanup. After the initial pond removal, an on-site treatment plant will be set up and operated.

In addition, it was required that each solid waste pile shall be removed down to the existing grade level at the site location on which it was situated, except for the “gyp” pond pile. Up to 750 cubic yards of soil below the existing grade level was removed in addition to the pile itself. This depression formed a storm water accumulation area for use after the surface cleanup. Adjacent areas to the South were graded to provide drainage to the area.

These cleanup activities were completed by November 30, 1984, and was conducted under a Phase I Partial Consent Decree by the PRPs. In 1986, the Trust successfully treated about 6,000 gallons of the liquid on site with the KPEG (potassium hydroxide, polyethylene glycol) mobile chemical dechlorination process. Residual material from the treatment process was shipped off site. No other materials contaminated with dioxins were found on site.

#### **1985 ROD (OU 02) <sup>1</sup> Selected Remedy:**

The ROD dated September 25, 1985, was considered Phase 2, and addressed subsurface wastes and contaminated soils left in place, including drums of “foundry sand” and other wastes buried on-site. This was based on the Western Processing Remedial Investigation (December 1984), Western Processing Feasibility Study and Executive Summary (March 1985), summary of Proposed Plan Remedial Alternative Selection and the Responsiveness Summary.

Based on these reports, analysis showed that over 95% of the contamination was in the uppermost 15 feet of the soil. In the top 6-9 feet (above the water table), all the contamination was in the soil. In the saturated zone, the contamination was in both the groundwater and the

---

<sup>1</sup> There is not a ROD for OU 03 – Mill Creek and East Drain, but rather they are referred to in the 1985 ROD, 1986 RODA and 1995 ESD. Also, EPA’s SEMS database tracks these separate OUs.

## Attachment 1

### WESTERN PROCESSING INC., SUPERFUND SITE SOURCE DOCUMENTS

July 2022

soils on the site and two adjacent properties owned by the Western Processing Company, Inc. (Figure 2, ROD 1985, remedial analysis areas including Areas I and VII).

1. Intensive soil sampling and analysis on and off the site during detailed design.
2. Selective excavation of highly contaminated soils and non-soil materials (drums and buried wastes) in Area I<sup>2</sup> Western Processing. Excavate, or clean and plug all utility and process lines in Area I.
3. Eliminate direct contact threats in the non-Western Processing property through excavation of all soils exceeding the acceptable daily intake (ADI) level or the  $1 \times 10^{-5}$  excess cancer risk level and covering/capping all remaining surface soils with above background concentrations of priority pollutants. Maintain cover/caps. Excavate utility lines leaving the site. Clean utility manholes/vaults near the site. Disposal in Area I or off-site. Actions limited to those off-site soils which may have been contaminated by Western Processing. The lead-contaminated house in Area 8 will be removed or decontaminated.
4. Construct a groundwater extraction and pre-treatment plant.
5. Operate the groundwater extraction and treatment system for up to five years (initial phase of system operation)<sup>3</sup> to prevent further contaminant discharges via the groundwater to Mill Creek and the east drain at levels harmful to aquatic organisms and to prevent the spread of, and if possible, remove the contamination from the shallow aquifer.
6. Construct, operate, and maintain a stormwater control system.
7. Intensive monitoring of Mill Creek, the east drain, the groundwater, and groundwater extraction system performance, combined with tests and implementation of system modifications such as acid or solvent-enhanced leaching of metal from the soil.
8. Excavate contaminated Mill Creek sediments.
9. Bench-scale tests of soil solidification techniques and, if system performance should dictate, pilot scale tests of in situ solidification technologies.
10. Perform supplemental remedial planning studies if shallow groundwater contamination beyond the currently contaminated zone or significant regional contamination is detected.

The ROD stated "...this initial phase of system operation/construction will require five years to ensure the continued effectiveness of the remedy. These activities will be considered part of the approved action and eligible for Trust Fund monies for a period of five years. ...If additional

---

<sup>2</sup> After the extraction system was replaced with a containment system in 1997, the term Areas or Cells was no longer used to represent portions of the site, the site is now referred to in terms of Sectors:

Sector 1: Located within the slurry wall and south of S. 196<sup>th</sup> Street

Sector 2: Located between Sector 1 and Mill Creek

Sector 3: The Trans Plume Area

Sector 4: Located within the slurry wall and north of S 196<sup>th</sup> Street; 250-foot breach on west side of slurry wall

<sup>3</sup> The 1985 ROD identified a short timeframe for extraction and treatment and referred to it as "initial phase of system operation."

## Attachment 1

### WESTERN PROCESSING INC., SUPERFUND SITE SOURCE DOCUMENTS

July 2022

remedial actions are determined to be necessary, a Record of Decision will be prepared for approval of the future remedial action.”

**NOTE:** Highlights do not indicate an interim decision; but state what is stated (or understood) in every ROD, that if there is new information then a new decision is required.

#### **1986 ROD Amendment—OU 02:**

The ROD amendment was based on two major actions which occurred that affected the 1985 ROD. First, the groundwater results from summer 1985 were summarized in a Supplemental Remedial Investigation report (SRI, 1986). Second, negotiations with the potentially responsible parties (PRPs) concluded with approximately 190 parties signing the Phase II consent decree. As a result, the remedial action was undertaken by the consenting defendants rather than the government and it was the final remedial action.

Selected Remedy: The 1986 ROD Amendment states, “For the most part, the consent decree remedy<sup>4</sup> was either identical to, or substantially the same as the alternative selected in the 1985 ROD. The differences between the remedy in the consent decree and the 1985 ROD fell into three areas –

1. The actions had been foreseen as part of the remedy outlined in the 1985 ROD but were expected to occur after the first 5 to 7 years of remedial action. These “Future Actions” included a RCRA compliant cap, long-term O&M, and long-term groundwater, and surface water monitoring. The future actions are now part of the amended selected remedy in the consent decree.
2. The original purpose of the remedy in the 1985 ROD is still achieved, but the schedule or phasing or approach is different. In some of these situations, the selected remedy in the consent decree is more specific where the 1985 ROD was more general. These changes alone would generally not have required the 1985 ROD to be amended. Examples of these include the on-property soil excavation and the allowable concentrations in Mill Creek.
3. Further actions were to be planned if they became necessary based on new regional groundwater data. Because the new information confirmed the regional groundwater contamination by trans 1,2, dichloroethylene (DCE), remedial actions and possible still further future actions have been added to remedy this situation.”

---

<sup>4</sup> In the 1980 RODs, for this Site, it was the practice to select a “selected alternative” in the ROD and further refine/negotiate it in the consent decree. Hence the term “consent decree remedy” is used in the successive decision documents referring to this action. This practice is no longer done.

## Attachment 1

### WESTERN PROCESSING INC., SUPERFUND SITE SOURCE DOCUMENTS

July 2022

The 1986 remedy was designed to be a final operable unit. Also, it recognized that there may be additional actions necessary under certain circumstances. First, if the selected remedy is unsuccessful in meeting the DCE performance standard, new or different technologies, such as in-situ soil stabilization, may be considered and addressed in an additional amended ROD after the consenting defendants request Government approval of such treatments. Second, remedies for deep (regional) groundwater contamination discovered by the monitoring well network (except for the trans 1,2-dichloroethene involving Well 35) are not covered by the remedial actions. The consent decree specifically states that the consenting defendants and the governments shall enter negotiations if any plume suspected as originating at Western Processing is found west of Mill Creek. (To date, no plume has been found west of Mill Creek; a recommendation in the Site Optimization Report is to sample VOCs west of Mill Creek to update and verify this.)

The Selected Remedy in the 1985 ROD as modified by the 1986 RODA (in italics)<sup>5</sup>:

1. Intensive soil sampling and analysis on and off the site during detailed design.
2. Selective excavation of highly contaminated soils and non-soil materials (drums and buried wastes, identified as “specific wastes”) in Area I – Western Processing before groundwater pumping begins, with additional excavation during and post-pumping if necessary. Exhume all buried containerized wastes, with off-site disposal of all RCRA hazardous or Ecology dangerous or extremely hazardous wastes. Excavate, or clean and plug all utility and process lines in Area I.
3. *After termination of groundwater pumping, cover Area I with a RCRA consistent cap for closure of a land disposal facility. Maintain cap for 30 years unless period is modified.*
4. Eliminate direct contact threats in the non-Western Processing property through excavation of all soils exceeding the ADI level or the  $1 \times 10^{-5}$  excess cancer risk level or a PCB concentration of 2 ppm and covering/capping all remaining surface soils with above background concentrations of priority pollutants. Maintain cover/caps for 30 years unless the period is modified for specific areas. Excavate utility lines leaving the site Area I and going towards Mill Creek and excavate or plug all other utility lines leaving Area I. Clean utility manholes/vaults near the site. Disposal in Area I or in an approved off-site disposal facility. Actions will be limited to those off-site soils which may have been contaminated by Western Processing. The lead-contaminated house in Area 8 will be decontaminated<sup>6</sup>.
5. Construct a groundwater extraction and pre-treatment plant.
6. Operate the shallow groundwater extraction and treatment system for up to five to seven years (initial phase of system operation) which will achieve an inward flow from the

---

<sup>5</sup> In 1988 a slurry wall around Sector 1 and 4, which was within Sector 1 at the time the slurry wall was installed, but this was not identified in the 1985 ROD or 1985 ROD Amendment. In 1997, a cutoff wall was installed along 196<sup>th</sup> Street between Sectors 1 and 4. This was identified in the ESD.

<sup>6</sup> 1985 ROD identified “remove or decontaminate” and 1986 ROD identified only decontaminate.

## Attachment 1

### WESTERN PROCESSING INC., SUPERFUND SITE SOURCE DOCUMENTS

July 2022

*boundary of the currently contaminated groundwater (except for a 50-foot setback along Mill Creek), and which will permanently achieve Mill Creek performance standards. Construct and operate for a minimum of 5 to 7 years a deeper groundwater extraction system which will, while the extraction system is operating, provide for a reversal of regional groundwater flow along the line of Mill Creek or which will establish a hydraulic barrier to regional groundwater flow along the line of Mill Creek. Construct and operate an extraction system to permanently reduce the concentration of trans 1,2-dichloroethylene<sup>7</sup> in the plume to less than 70 ppb<sup>8</sup>. Construct, operate and maintain or otherwise provide for a groundwater pre-treatment plant. All extracted water leaving the site shall comply with the requirements of Metro if discharged into the sewer system or of Ecology if discharged into waters of the state. Groundwater extracted from off-property areas may be infiltrated onto Area I<sup>9</sup> to assist in the leaching process.<sup>10</sup>*

7. Construct, operate, and maintain a stormwater control system
8. Intensive monitoring of Mill Creek, the east drain, the groundwater, and groundwater extraction system performance. *Demonstrate compliance with the Mill Creek and trans 1,2-dichloroethylene performance standards for 30 years from the termination of pumping, unless modified.*<sup>11</sup>
9. Excavate contaminated Mill Creek and east drain sediments which may have been affected by Western Processing.
10. *Perform conditionally required actions if the performance standards are not achieved, or if it appears that more than 20 years of groundwater extraction will be necessary. These studies may require tests (bench-scale or pilot scale) of potential remedial techniques. Bench-scale tests of soil solidification techniques and, if system performance should dictate, pilot scale tests of in situ solidification technologies.*
11. Perform supplemental remedial planning studies if shallow groundwater contamination beyond the currently contaminated zone or significant regional contamination is detected.<sup>12</sup>

---

<sup>7</sup> The original identification of the trans- isomer within the plume was later determined to primarily contain the cis-isomer. Later the decision was made to apply the cleanup level to them both. And, in older documents, this contaminant is referred to as 1,2-dichloroethylene, and in more recent documents such as the Long-Term Contingency Plan (revised 2009) as 1,2-dichloroethene. When it is cited from a prior document, the spelling used will be retained.

<sup>8</sup> This is the only cleanup level identified in the site decision documents.

<sup>9</sup> Area 1 is now referred to as Sector 1.

<sup>10</sup> 1985 ROD stated, "To prevent further contaminant discharges via the groundwater to Mill Creek and the east drain at levels harmful to aquatic organisms and to prevent the spread of, and if possible, remove the contamination from the shallow aquifer" and this was not in the 1986 RODA remedy selected.

<sup>11</sup> 1985 ROD stated, "Combined with tests and implementation of system modifications such as acid or solvent-enhanced leaching of metal from the soil" and this was not in the 1986 RODA remedy selected.

<sup>12</sup> This remedy element was in the 1985 ROD, but not included in the 1986 RODA remedy selected.

## Attachment 1

### WESTERN PROCESSING INC., SUPERFUND SITE SOURCE DOCUMENTS

July 2022

#### **1995 Explanation of Significant Differences:**

On September 12, 1995, the Trust, on behalf of the consenting defendants, submitted a Petition to EPA and Ecology for a waiver of certain performance standards and the opportunity to shift the focus of the ongoing remediation from groundwater restoration to containment. Specifically, the Trust request a Technical Impracticability (TI) waiver for certain performance standards because the standards could not be achieved in a reasonable time frame and at a reasonable cost.

On December 11, 1995, EPA signed an Explanation of Significant Differences (ESD) for a modified Alternative Remedy. The Trust, on behalf of the consenting defendants, submitted a Petition to EPA and Ecology for a TI waiver of certain performance standards that could not be achieved in a reasonable time frame and at a reasonable cost and to shift the focus of the remediation from groundwater restoration to containment. On November 22, 1995, Ecology and EPA conceptually approved the Alternative Remedy in the Petition **as it was fundamentally consistent with the 1986 RODA**, significantly reduced remediation costs and still was protective of human health and the environment. The TI waiver was not granted.

The ESD addressed hot spot remediation, a South 196<sup>th</sup> Street slurry wall (separating Sectors 1 and creating Sector 4) and changing from mass removal pumping to containment pumping.

The ESD Alternative Remedy included:

1. Apply institutional controls to protect the cap and slurry wall and limit groundwater usage on site and in the immediate area.
2. Containment pumping and treatment of extracted groundwater from inside the slurry wall. The current extraction rate (200 gallons per minute) will be significantly reduced.
3. Containment pumping and treatment of extracted groundwater from the trans plume area.
4. Construction of a RCRA consistent cap over the site after the existing extraction and treatment systems are removed.
5. Long-term surface water and groundwater monitoring for 30 years after the cap is constructed unless the time frame is modified. There will be five-year reviews to assess the effectiveness of the remediation and continued need for monitoring.
6. Retain the current slurry wall and construct a cut-off wall parallel to South 196<sup>th</sup> Street.
7. Hot spot remediation of targeted areas using bioremediation, thermal desorption and stabilization techniques.
8. Site maintenance for 30 years after the cap is constructed unless the timeframe is modified.
9. Development of a contingency plan for mitigating potential releases from the site if containment pumping is not effective.

#### **Site Optimization Report (4/20/2022):**

## Attachment 1

### WESTERN PROCESSING INC., SUPERFUND SITE SOURCE DOCUMENTS

July 2022

**Containment Remedy Success.** Overall,...historical water quality monitoring results from wells in Zone B within Sector 1 and wells outside of Sector 1 indicate the containment remedy has been overwhelmingly successful in mitigating contaminant migration both vertically and horizontally. (p.23)

**Exposure Pathways Protected – Section 4.1.8 Potential Human and Ecological Exposure Pathways.** The sixth FYR (EPA, 2018) determined that the remedy is currently protective for OU1, OU2 and OU3 because there are no completed current exposure pathways. The optimization review team concurs with that assessment and the review team has not identified any specific concerns regarding potential future exposures. (p. 24)

#### **Impacts of Remedy Modification – Section 5.7 Considerations for Future Remedy**

**Implementation.** The current remedy has been effective at mitigating Site-related groundwater impacts outside of the slurry wall and protecting Mill Creek and the East Drain. Without further modification, the optimization team expects that the remedy will need to continue operating for the foreseeable future to maintain these improved conditions. More aggressive remedial approaches could be considered to accelerate restoration of Sector 1, Zone A groundwater, but the optimization team has two primary concerns regarding these more aggressive approaches.

**First,** an aggressive approach for VOCs, such as in-situ biological treatment, in-situ oxidation, or in-situ thermal remediation, would not necessarily be effective at addressing other known COCs, including zinc, manganese, 1,4-dioxane, OPMO, and HPMO. Furthermore, the extent and magnitude of 1,4-dioxane within Sector 1 (Zone A) groundwater is uncertain.

**Second,** Western Processing accepted substantial and varied chemical wastes from a variety of industries. Although VOCs, such as TCE and its degradation products, are identifiable, straightforward to treat, and straightforward to monitor, concerns may remain about other contaminants that have yet to be identified that could be present within Sector 1 soil and groundwater. For example, 1,4-dioxane was not considered a groundwater contaminant at the time of the ROD or ESD, yet it is now known to be present, drives the groundwater extraction at U1 and U2, and would not have been susceptible to several typical VOC treatment technologies. Per- and Polyfluoroalkyl Substances (PFAS), which have been identified at many CERCLA sites across the country, are other examples of contaminants that are often present but would not be susceptible to typical remedial approaches for other COCs. OPMO and HPMO are two unique COCs to Western Processing that have been detected at this Site. OPMO and HPMO have not been detected at any of the other more than 100 CERCLA sites that the optimization team has reviewed. Under circumstances where there is a reasonable potential for yet-to-be-identified contaminants to be present and an effective containment remedy already exists, the optimization team is concerned about a potential loss of protectiveness if the Site adopts a more aggressive remedy that targets only known COCs and transitions away from containment. (pp.32-33)

**Final thoughts of Site Optimization Report, Section 4.0, before Recommendations.** In addition, during the optimization review virtual Site visit EPA Region 10 indicated they have some uncertainty about whether or not the current remedy is a “final remedy” for this Site. This

## **Attachment 1**

### **WESTERN PROCESSING INC., SUPERFUND SITE SOURCE DOCUMENTS**

July 2022

type of policy determination is beyond the scope of the optimization review. However, the optimization review team notes that the ROD Amendment (EPA, 1986a) states in multiple places that the decision pertained to a “final remedy” or “final remedial action” (see Section 3.3 of this optimization review report). The optimization review team also notes that, from a technical perspective, the installation of a RCRA cap after the intended hot-spot excavation was completed is consistent with an intent to implement a “final remedy” in that portion of the Site. The optimization review team further notes that the performance of the current remedy appears to have been (and continues to be) successful in achieving the intended outcome in the ROD Amendment (EPA, 1986a) and subsequent ESD (EPA, 1995). (p. 29)

**2018 Fifth Five Year Review**

**VII. PROTECTIVENESS STATEMENT**

<b>Protectiveness Statement(s)</b>	
<i>Operable Unit:</i> OU1	<i>Protectiveness Determination:</i> Protective
<i>Protectiveness Statement:</i> The remedy at OU1 is protective of human health and the environment. Surficial hazardous wastes were removed and surface structures were cleared so that no completed exposure pathways exist.	

<b>Protectiveness Statement(s)</b>	
<i>Operable Unit:</i> OU2	<i>Protectiveness Determination:</i> Short-term Protective
<i>Protectiveness Statement:</i> The remedy at OU2 currently protects human health and the environment because there are no current completed exposure pathways. The containment area is surrounded with a slurry wall to prevent migration of groundwater contamination. Groundwater and surface water monitoring do not indicate that contaminant concentrations have increased. However, for the remedy to be protective in the long-term, the following actions need to be taken to ensure protectiveness: implement appropriate institutional controls at the Site and evaluate appropriate sampling for 1,4-dioxane to determine if it is present in site media and take additional action if necessary.	

<b>Protectiveness Statement(s)</b>	
<i>Operable Unit:</i> OU3	<i>Protectiveness Determination:</i> Short-term Protective
<i>Protectiveness Statement:</i> The remedy at OU3 currently protects human health and the environment because there are no current completed exposure pathways. Contaminated sediment from the East Drain and Mill Creek has been removed and surface water monitoring continues. However, for the remedy to be protective in the long-term, the following action needs to be taken to ensure protectiveness: evaluate appropriate sampling for 1,4-dioxane to determine if it is present in site media and take additional action if necessary.	

**Item 2 remains outstanding; if the interested Developers purchase Sector 1, they will implement Sector 1 surface/RCRA C cap ICs. 1, 4 Dioxane (emerging contaminant) is being sampled for 5 years starting in 2018, and Site Optimization Report identifies sampling for this contaminant in Sectors 3 and 4.**

**2013 Fourth Annual Review**

10. STATEMENT OF PROTECTIVENESS:

Based on this Technical Assessment, a protectiveness determination related to the remedy for the Western Processing Site cannot be made at this time. Additional data needs to be collected for the sediment portions of the remedy (East Drain and Mill Creek) to ensure they remain protective. With the exception of these sediment areas, the remedy currently protects human health and the environment in the short term because the contaminated groundwater and soil in the source area are contained within the slurry wall, the RCRA cap and the containment pumping and treatment system. The groundwater concentrations off the Western Processing property have decreased to below detection levels. There are no current exposures to site contaminants related to these portions of the remedy. However, for the remedy to be protective in the long term, institutional controls that will run with the land need to be placed on the properties located within the area bounded by the slurry wall.

**2008 Third Five Year Review**

**9. Protectiveness Summary**

The remedy at the Western Processing site currently protects human health and the environment because the slurry wall, RCRA cap, containment pumping and extraction treatment system contain the contaminated groundwater and soil within the source area. The groundwater concentrations off the Western Processing property are decreasing and there are no exposure routes to the site contaminants. However, institutional controls that will run with the land still need to be placed on the property to ensure long-term protectiveness.

**2003 Second Five Year Review**

**X. Statement of Protectiveness:**

Based on the Technical Assessment for the Western Processing, the remedy for the Western Processing site currently protects human health and the environment because the contaminated groundwater and soil in the source area are contained by the slurry wall, the RCRA cap and the containment pumping and treatment system. The groundwater concentrations off the WP property are decreasing; and there are no current exposure to site contaminants. However, for the remedy to be protective in the long term, institutional controls that will run with the land need to be placed on the property.

**1998 First Five Year Review**

A data report review and a site inspection were done as part of this review. Based on this review, the remedial actions that are being completed as designed and they are functioning as designed. The site remains protective of human health and the environment.

**VI. PROGRESS TOWARD REMEDIAL OBJECTIVES**

The following summarizes remedial objectives achievements and work ongoing to meet these objectives:

1. The first ten items identified as components of the ROD (Section III e) have been successfully completed;
2. The on-site surface removal action was successfully completed prior to 1985;
3. Subsurface soil and waste cleanup was completed in 1997 with the excavation and offsite disposal of contaminated soil from Area 1;
4. Offsite soils have been removed and clean fill placed in excavated areas;
5. A groundwater extraction and treatment system has been in operation since 1988;
6. Mill Creek and East Drain cleanups have been completed;