RECORD OF DECISION

For

J.H. Baxter & Co. Facility
EUGENE, OREGON
ECSI#055

Prepared By

OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY
WESTERN REGION OFFICE

October 2019

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Acronyms and Abbreviations

Baxter	J.H. Baxter & Co.
bgs	below ground surface
COC	chemical of concern
DEQ	Oregon Department of Environmental Quality
ERA	ecological risk assessment
FYR	Five year review
FS	feasibility study
GSI	GSI Water Solutions, Inc.
HHRA	human health risk assessment
LRAPA	Lane Regional Air Protection Agency
mg/kg	milligram per kilogram
µg/l	microgram per liter
µg/kg	microgram per kilogram
MNA	monitored natural attenuation
NPDES	National Pollution Discharge Elimination System
OAR	Oregon Administrative Rules
ORS	Oregon Revised Statutes
PAH	polycyclic aromatic hydrocarbon
PCB	Polychlorinated biphenyls
PCP	pentachlorophenol
pg/g	picograms per gram
RAO	remedial action objectives
RI	Remedial investigation
RD/RA	Remedial design/remedial action

Executive Summary

This Record of Decision (ROD) describes the remedial action selected by the Department of Environmental Quality for the J.H. Baxter Eugene Facility site. The remedial action includes the following elements:

- Excavation of contaminated soil in the ditch along the southern edge of the property and placing it in the wood storage area before the engineered soil cap is installed;
- Capping of the onsite contaminated soil and the pond sediments with an engineered cap of asphalt and/or gravel;
- Maintaining the cap that currently exists over the Tram Storage Area;
- Continued hydraulic containment and contaminant removal using a groundwater extraction and onsite treatment;
- Ongoing groundwater monitoring, including updating the beneficial water use survey on a regular basis to look for new water wells;
- Sampling of the surface water, sediment, and soil in offsite areas that could reasonably have been impacted by contaminant discharges from the facility in order to update the historical data;
- Institutional controls to maintain soil cap integrity over all of the impacted areas, protect areas with offsite groundwater contamination, and restrict groundwater use on the facility; and
- Periodic reviews, starting with a five-year review of the remedial action and contingency planning.

This remedy was selected after input from the public during a May 1 until June 14, 2019 public comment period and a public meeting on June 11, 2019.

1. INTRODUCTION

1.1 INTRODUCTION

This document presents the Record of Decision (ROD) for the J.H Baxter & Co. (Baxter) Eugene facility (the Site) at 85 Baxter Street in Eugene, Oregon. This document was developed in accordance with Oregon Revised Statutes (ORS) 465.200 et. seq. and Oregon Administrative Rules (OAR) Chapter 340, Division 122, Sections 010 through 115.

This remedial action decision is based on the administrative record for this site. A copy of the Administrative Record Index is included in Appendix A. This report summarizes the detailed information contained in the remedial investigation (RI), human health and ecological risk assessments, and feasibility study (FS) reports that have been completed under Oregon Department of Environmental Quality (DEQ) Consent Order No. ECSR-WVR-88-06, which went into effect on August 7, 1989.

1.2 SUMMARY OF THE REMEDIAL ACTION

The remedial action addresses the contamination at the site, including pentachlorophenol (PCP) in the groundwater on and offsite and arsenic, benzo(a)pyrene, dibenzo(a,h)anthracene, and dioxins/furans in soil onsite. DEQ has determined that these contaminants could pose an unacceptable risk if left unaddressed. Additionally, based on extensive public comment, offsite soil, sediment, and surface water will be resampled. If results indicate an unacceptable risk, additional cleanup actions will be evaluated and implemented.

The remedial action consists of the following primary elements, which are described further in Sections 5.2 and 8:

- Excavation of contaminated soil in the ditch along the southern edge of the property and consolidating in the wood storage area before capping;
- Capping of the onsite contaminated soil and the sediments in the onsite pond with an engineered cap of asphalt and/or gravel;
- Maintaining the cap that already exists over the Tram Storage Area;
- Continued hydraulic containment and contaminant removal using a groundwater extraction and onsite treatment;
- Ongoing groundwater monitoring, including updating the beneficial water use survey on a regular basis to look for new water wells;
- Sampling of the surface water, sediment, and soil in offsite areas that could reasonably

have been impacted by contaminant discharges from the facility in order to update the historical data;

- Institutional controls to maintain soil cap integrity over all of the impacted areas, protect areas with offsite groundwater contamination, and restrict groundwater use on the facility; and

- Periodic reviews, starting with a five-year review of the remedial action and contingency planning.

2. SITE HISTORY AND DESCRIPTION

2.1 SITE LOCATION AND LAND USE

The Baxter-Eugene facility is located on 31.5 acres at 85 Baxter Street in northwest Eugene, Oregon, Township 17S, Range 4W, Section 27, Lane County (Figure 1). The Site latitude is 44.062133, longitude is -123.151536.

The Site and vicinity are generally flat and highly developed, consisting of a mix of industrial, commercial, and residential properties; railways; and public roads. Roosevelt Boulevard and the Roosevelt Channel border the site to the north and northwest. Industrial properties are located northeast, east, and west of the facility. The Union Pacific Railroad right-of-way is the southern boundary and there is a stormwater drainage channel along that property line.

2.2 PHYSICAL SETTING

2.2.1 Climate

Eugene receives an average of 49.4 inches of precipitation annually, primarily between November and March. The average annual minimum and maximum temperature is 41.8°F and 63.3°F, respectively.

2.2.2 Geology

Eugene is located in the southern part of the Willamette Valley between the Cascades to the east and the Coast Range to the west. Topography in the vicinity is flat, and slopes gently toward Amazon Creek, located approximately two miles west of the Site. The ground elevation of the Site ranges from 390 to 395 feet above mean sea level.

This area of Eugene is predominately underlain by unconsolidated alluvial deposits of Quaternary age, composed of sands and gravels, with intermixed silt and clay materials. The facility is situated on the older alluvium, which is estimated to be approximately 150 to 200 feet thick beneath the Site (Keystone, 1991). Figure 2 shows cross-section lines for the Site, and Figures 3 and 4 show the corresponding geologic cross-sections.

2.2.3 Hydrogeology

Three water-bearing zones have been identified and defined beneath the facility and in the surrounding area: a shallow water-bearing zone, an intermediate water-bearing zone, and a deeper water-bearing zone. In between these zones are discontinuous layers of fine-grained sediments that serve to slow groundwater movement between these primary water-bearing zones; however, these fine grained strata do not prevent vertical groundwater migration, as proven by geologic, pump test data, and chemical data.

The shallow water-bearing zone is present in the sandy gravel at depths from approximately 10 to 30 feet below ground surface (bgs). Groundwater flows to the north-northwest in this shallow zone, under a horizontal hydraulic gradient of 0.01 to 0.001 feet per feet (i.e. over 100 to 1000 feet, the water table decreases in height by one foot).

The intermediate water-bearing zone is present beneath most of the facility. The top of this zone starts at depths of approximately 20 feet bgs on the eastern portion of the facility to approximately 40 feet bgs west of the facility, and the bottom of the intermediate zone is approximately 60 to 80 feet bgs. Groundwater flows in this zone to the northwest, with a horizontal hydraulic gradient of approximately 0.001 feet per feet (i.e. over 1000 feet, the hydraulic head at the monitoring wells decreases by one foot).

The deeper water-bearing zone is present beneath the facility at a depth beginning at approximately 80 to 100 feet bgs, and is comprised of primarily of sandy gravel.

The depth to groundwater varies seasonally and typically is first encountered between five and 10 feet bgs. Vertical hydraulic gradients may be upward or downward depending on the seasonal recharge and localized pumping effects. At the northern facility boundary, a groundwater capture zone has developed around the existing groundwater extraction wells in both the shallow and intermediate zones (Baxter, 2010b).

2.2.4 Surface Water and Stormwater Features

Rain falling on the facility is collected through a series of onsite ditches and sumps that is then pumped into an onsite treatment system. This includes a settling pond, storage tanks, treatment tanks, and piping to a discharge point, called Outfall 001, which enters a ditch on the south side of the Site and connects to Roosevelt Channel. DEQ's Water Quality Program oversees the stormwater system and discharge through the facility's National Pollutant Discharge Elimination System (NPDES) permit.

Beyond the Site, ditches and canals, built in the 1950s, control the surface water drainage. Roosevelt Channel drains into the lower Amazon Creek Watershed, which drains west and north through Fern Ridge Reservoir and the Long Tom River to the Willamette River about 40 miles north of Eugene (Keystone, 1991).

2.3 PLANT OPERATIONS

2.3.1 Physical Plant

Baxter developed the Site and began wood treatment in 1943. Before 1943, the area was undeveloped farmland. Figure 5 presents the general site layout and location of historical features. The earliest treating processes used creosote formulations in a single retort (Retort 82). In 1945, they added a second retort (Retort 83) for treating wood products with PCP. Between 1945 and 1970, the facility added four more retorts and began using PCP, metals-based treating solutions, and fire retardants.

Between 1945 and 1955, a burn pit was used to dispose of waste onsite (Figure 5) Additionally, a log pond was located on the southwestern portion of the facility until the mid-70s, when Baxter filled in a portion of it to construct the stormwater retention pond (Figure 5). The existing pond is approximately 0.75 acre in size and five feet deep.

Currently, the Eugene facility processes raw wood products using methods, which include framing, trimming, marking, seasoning, and pressure treatment. The finished products, which include dimensional wood products, guardrails, crossarms, poles, and pilings, are shipped to utilities and other users by truck or rail. The main elements of the pressure treatment system, processes and handling of treated products are summarized below:

- Five retorts are currently in use onsite for pressure treatment of wood products.
- Chemicals used include:
    - creosote,
    - PCP, and
    - Chemonite® (ammoniacal copper zinc arsenate).
- Retort 85 utilizes PCP for wood treatment and there are several process and storage tanks associated with this area (Figure 5).
- South of Retort 85 is the main pressure treatment area, which includes the remaining four retorts (Retorts 81, 82, 83, and 84), and multiple work, process, and storage tanks (also shown on Figure 5).
- The ground surface beneath all retorts and tanks is paved, but approximately 80% of the remaining facility is unpaved.
- All of the retorts have concrete drip pads.

Pressure-treated products are moved to the treated wood storage areas located throughout the facility, placed on skids for storage, and ultimately shipped offsite by truck and rail. Untreated wood products are stored throughout the facility.

In late 2007, the eastern portion of the facility was capped with 12 inches of gravel fill, as part of an interim remedial action measure. A boundary line adjustment was completed in 2009 and the capped area is now a separate tax lot owned by Pacific Recycling.

2.3.2 Chemical Use and Waste Generation and Management

PCP, creosote, Chemonite®, and other metal-based treating solutions are registered pesticides under the Federal Insecticide, Fungicide and Rodenticide Act, and have been used for treating wood products at the facility. Baxter recycles and reuses process residuals and wastewater in accordance with the federal Resource Conservation and Recovery Act. In addition, under Baxter's *Incidental and Infrequent Drippage Plan* (Baxter, 2013), soil is inspected daily during operations and any liquid or stained soil is collected and disposed of as hazardous waste. Hazardous wastes generated at the Eugene facility are managed in accordance with federal, state, and local regulations; and the facility is inspected on a regular basis by DEQ's Hazardous Waste Program. Hazardous wastes generated onsite are shipped offsite for disposal. Before shipment, the wastes are stored in a hazardous waste accumulation area (Figure 5).

3. RESULTS OF INVESTIGATIONS

3.1 NATURE AND EXTENT OF CONTAMINATION

Investigations of contamination in the soil, groundwater, and surface water began in 1981, roughly 38 years after Baxter began operations. Contaminants of interest included metals, semi-volatile organic compounds, volatile organic compounds, polychlorinated biphenyls (PCBs), and polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans (dioxins/furans). All of these were discovered in soils onsite, but the primary contaminant of concern in off-site groundwater was PCP, a semi-volatile organic compound that is a common ingredient in wood treatment products.

In 1989, Baxter entered into a Consent Order with DEQ to conduct an RI, and ecological and human health risk assessments. On October 26, 1990 DEQ amended the Consent Order to include the submittal and implementation of a groundwater monitoring work plan. A second addendum, dated September 16, 1994, required the completion of additional investigation and a feasibility study to evaluate cleanup alternatives.

Characterization of the nature and extent of contaminants at the site was performed during the two phases of remedial investigation. Phase I included an RI and human health risk screening in 1991 (Keystone, 1991). Phase II was submitted to DEQ in 1994 (Keystone, 1994). This report included data from additional wells, boreholes, surface soils, sediment, and surface water.

Following the Phase I and Phase II RI reports, several additional investigations have been conducted at the Site, including an ecological risk assessment (Keystone, 1999), a revised baseline human health risk assessment (HHRA) (Baxter, 2006a), and a HHRA addendum (AMEC, 2014). The key findings of these investigations are provided in the following subsections.

3.1.1 Groundwater

The HHRA evaluated all of the contaminants of concern detected in the groundwater and found that PCP could pose an unacceptable risk to humans if ingested via drinking the groundwater (Baxter, 2006a). The extent of PCP in shallow and intermediate water-bearing zones from 2014 through the most recent (2018) data is shown in Figures 6 and 7, respectively. Figure 6 also shows the approximate source areas for PCP. As can be seen in the figures, groundwater contamination extends further in the intermediate zone, to the north and west beneath neighboring properties.

Besides the dissolved PCP in groundwater, small quantities of dense nonaqueous-phase liquid and light nonaqueous-phase liquid were detected on the groundwater at monitoring wells W-2S (located near the stormwater retention pond) and W-8S (located near the former burn pit) from 1986 to the late 1990s, as shown in Figure 8. Observations in these wells for at least the last five years, though, have not noted any nonaqueous-phase liquid and it has been observed in any other wells at or near the facility.

In 2002, Baxter evaluated the possibility of extraction of nonaqueous-phase liquid from wells W-2S and W-8S (Baxter, 2002b), but the quantity and mobility were too low in both wells to successfully recover any product. The RI Summary Report (Baxter, 2010b) and the 2011 FS Report (Baxter, 2011) summarize these findings.

3.1.2 Surface Water

Surface water from Roosevelt Channel and the ditch leading from the stormwater retention pond, where Outfall 001 is located, were sampled in 1990, 1993, 2000, and 2001 for metals, semi-volatile organic compounds, and PCP. Chemicals from all three analyte groups were detected at low levels. The HHRA (Baxter 2006a) evaluated risks for a child swimming in the channel for several hours. The results of that evaluation are described below in Section 3.2.

3.1.3 Soil

Both surface soil, from 0-3 feet below ground surface (bgs), and subsurface soil (greater than three feet bgs), have been sampled at the Site for a wide variety of general chemistry parameters and contaminants of interest. Sample locations for surface and subsurface soil are shown in Figures 9 and 10. PCP was detected in 17 of 61 surface samples and 18 out of 76 subsurface samples. The highest concentration of PCP was detected at B-11 near the main wood treating area at a concentration of 182 milligrams per kilogram (mg/kg).

In general, PCP concentrations in both surface and subsurface soil are highest in the main wood treating area and near the former burn pit, where PCP solutions were handled for pressure treating the wood. PCP concentrations in the soil away from the main treatment area and former burn pit are generally lower or below method reporting limits.

Total PAHs were detected in 57 of 62 surface soil samples and 41 of 66 subsurface soil samples. The highest total PAH concentration was from soil excavated from the drip pad area during construction of new drip pads in 1992 (Baxter, 2010a). The distribution of PAHs in soil is similar to that of PCP.

Metals, including arsenic, chromium, copper, and zinc, were detected in nearly all of the surface and subsurface soil samples analyzed. The maximum concentrations in surface soil were 2,390 mg/kg; 468 mg/kg; 4,090 mg/kg; and 1,790 mg/kg, respectively and located southeast of the main treating area. Maximum concentrations for these four metals were all lower at deeper levels. Metals concentrations in areas away from the main treatment area are considerably lower (Baxter, 2010a).

The toxic equivalent quotient for dioxins/furans were analyzed in nine surface soil samples (Figure 10a). Concentrations ranged from 2.32 picograms per gram (pg/g) near the southern property line to 1,400 pg/g in the soil pile. Baxter later removed the soil pile and disposed of the soil at an appropriate disposal facility; however, unacceptable concentrations of dioxins remain in the surface soils.

Residual nonaqueous-phase liquid was observed in soil near the main treatment area, the stormwater retention pond, and the former burn pit during the remedial investigation. Figure 8 shows these areas. They coincide with the highest contaminant concentrations found in soil samples. As discussed earlier, Baxter made an effort to collect the nonaqueous-phase liquid, but the quantity and mobility is too low to effectively recover.

3.1.4 Sediment

Sediment samples were collected in 1990, 1993, 1996, 1998, and 2003 from locations in and around the Baxter facility. Sediment samples from the drainage ditch at the southwest corner of the Site were combined with soil data in subsequent analyses. Sediment samples from Roosevelt Channel were evaluated as a separate data set, and included low level detections of arsenic, dioxins/furans, and some PAHs. Figure 3-4 in the Remedial Investigation Summary Report (Baxter. 2010a) shows the sediment sample locations.

3.1.5 Air

Lane Regional Air Protection Agency (LRAPA) regulates air discharges from active operations via an Air Contaminant Discharge Permit. The United States Department of Health and Human Services and Oregon Health Authority evaluated the potential for adverse health effects from historical emissions, based on air monitoring data from the Site. The report concluded that exposure to emissions from the Site was not anticipated to result in adverse health effects (U.S. Department of Health and Human Services, 2007).

In addition to the health consultation, the HHRA (Baxter 2006a) considered the potential for exposure to chemicals volatilizing from soil and groundwater, and from air dispersion of dust-borne particulate. The results of that evaluation are described below in Section 3.2.

3.1.6 Tram Storage Area

On September 29, 2014, the U.S. EPA Resource Conservation and Recovery Act Program conducted an inspection of the Baxter Facility and observed violations, including an issue with the tram storage area. This tram storage area is located in the main operating area of the facility (Figure 5), adjacent and built into the drip pad. The tram storage area's appropriate function is to store the clean trams in between usage, however, during the inspection it was noted that the trams were not being properly cleaned prior to being moved into this area. Additionally, the inspector noted "a significant amount of staining on the asphalt surface of the tram storage area." (EPA, 2018)

To address the issues found in the inspection, EPA issued a Consent Agreement and Final Order for J.H. Baxter in August 2018, indicating "the tram storage area at the facility should be considered an area of contamination and be included in DEQ's ROD for the Facility cleanup." The EPA Order requires Baxter to address closure requirements with respect to the tram storage area through this ROD. In order to meet these requirements, the soil beneath the tram storage area will be presumed contaminated and included in the remedial action described in this ROD.

3.2 RISK ASSESSMENT

The results of the risk assessment for human health and potential ecological receptors at the Site are summarized below. More detail is available in the following documents:

- *Ecological Risk Assessment of J.H. Baxter & Co., Eugene, Oregon Plant Site.* Keystone (1999).
- *Draft Human Health Risk Assessment, J.H. Baxter & Company, Eugene, Oregon Facility.* Baxter (2002c).
- *Revised Baseline Human Health Risk Assessment.* Baxter (2006a).
- Technical Memorandum: *Revised Baseline Human Health Risk Assessment Addendum.* AMEC (2014).

3.2.1 Conceptual Site Model

Figure 11 presents the hydrogeological conceptual site model for the Site, including the sources and releases of contaminants of concern (COCs), generalized hydrogeologic information, and COC distribution and potential movement at the facility. Based on the current understanding of land and groundwater use conditions at or near the facility, potential current and future human exposure scenarios evaluated in the HHRA included the following:

Table 1. Risk Conceptual Site Model
Pertinent Human Health Pathways and Receptors

Source	Exposure Pathway	Receptor Scenario
Onsite Soil	Ingestion and Dermal Contact	Occupational Worker, Construction and Excavation Workers
Onsite Soil	Inhalation of soil dust	Occupational Worker, Construction and Excavation Workers
Offsite Soil	Ingestion and Dermal Contact	Residential, Occupational Worker, Construction and Excavation Workers
Onsite Groundwater	Incidental ingestion and dermal contact	Excavation Workers

Offsite Groundwater	Incidental ingestion and dermal contact	Residential use for irrigation, and Occupational Worker
Offsite Surface Water and Sediment in Roosevelt Channel	Incidental ingestion and dermal contact	Residential –adults and children recreating in channel
Offsite Groundwater	Ingestion	Residential - consumption of vegetables irrigated with groundwater

Table Notes:

1. Onsite groundwater exposure to an industrial worker was not evaluated because city water is used on site, except for treated groundwater from the onsite treatment system being used for dust suppression in dry months.
2. Ingestion of offsite groundwater as a drinking water source is considered unlikely because the homes and businesses in the immediate vicinity of the facility are connected to the city water supply. The Beneficial Water Use Determination, completed in 2002, indicated no domestic wells were being used for drinking water within the plume area (Baxter 2002a). Seven irrigation wells were identified during that search. An updated well search was completed of the Oregon Department of Water Resources data base in 2015 and only one new irrigation well was identified. Please see Section 3.3 below for a more detailed description of that determination.

3.2.2 Human Health Risk Screening

All contaminants of interest were screened against the Oregon DEQ's risk-based screening levels, which comply with Oregon Statute 465.315. Chemicals and pathways that exceeded the screening levels were carried through for detailed evaluation in the baseline risk assessment.

3.2.3 Human Health Risk Assessment

Quantitative risk estimates were calculated for all complete exposure pathways, listed in Table 1. The results of these calculations are described in detail in the HHRA (Baxter, 2006a) and HHRA Addendum (AMEC, 2014), and summarized below.

The risk estimates were the result of a HHRA for current and hypothetical future receptors and exposure routes. The risk assessment reports listed above describe in detail the procedures used to evaluate the potential risks associated with the chemicals and media retained for evaluation following the screening step, and identify areas of the site where the calculated risks are greater than DEQ's acceptable risk levels as defined in Oregon Administrative Rules (OAR) 340-122-0115.

The risk assessments found unacceptable risk for the pathways and contaminants listed in Table 2.

Table 2. Pathways and Contaminants Requiring Remedial Action

Exposure Pathway	Receptor Scenario	Contaminants of Concern
Onsite Soil		
Ingestion and Dermal Contact	Occupational Worker, Construction and Excavation Workers	arsenic, benzo(a)pyrene, dibenzo(a)anthracene, and dioxins/furans
Onsite Groundwater		
Incidental Ingestion and Dermal Contact	Construction and Excavation Workers	benzo(a)pyrene, dibenzo(a)anthracene, and PCP
Offsite Groundwater		
Incidental ingestion and dermal contact	Residential users during irrigation practices	PCP, benzo(a)pyrene, dibenzo(a)anthracene, and dioxins/furans[1]
Incidental ingestion and dermal contact	Industrial Workers during irrigation practices	PCP[2]

1. Dioxins/furans were retained as COCs for residential contact with offsite groundwater because the laboratory methods could not achieve a low enough detection level to eliminate with certainty the potential for unacceptable risk. However, no dioxins or furans were actually detected in the groundwater and these chemicals. In addition, dioxins/furans are not likely to be dissolved in groundwater Therefore, DEQ has determined there is no additional remedial action necessary for the groundwater based on this artifact of the laboratory limitations.
2. The PAHs and dioxin/furans do not pose a risk for industrial workers because of the minimal exposure time.

Only the shallow and intermediate water-bearing zones were identified as posing potential human health risk from drinking the groundwater. Contamination did not impact the deeper zone to a degree that poses unacceptable risk.

Although there was a risk identified if the groundwater off-site was used for drinking water, groundwater concentrations were not high enough to pose an unacceptable risk if people consume home-grown fruits and vegetables irrigated with water from off-site wells.

Additionally, the risk assessment concluded that there was no unacceptable risk from direct contact to recreational users with soil, sediment, or surface water in Roosevelt Channel. The scenario evaluated was a child swimming in the channel for several hours and this was shown to not pose an unacceptable risk.

However, due to extensive public concern and the fact that this assessment relied on relatively old data, resampling of soil, sediment, and surface water in offsite areas adjacent to the facility will be completed as part of this remedy. It is expected the concentrations will be lower, but risk from these media will be revisited based on the new sample results and additional cleanup actions will be taken as appropriate.

3.2.4 Ecological Risk Assessment

A qualitative ecological scoping assessment was performed as part of the Phase II RI for the Site in 1994, which led to a more detailed, quantitative ecological risk assessment in 1999 (Keystone, 1999). All contaminants of interest were screened for risk to soil invertebrates, plants, avian species, and small mammals. Dioxins and furans were carried through the screening due to their bioaccumulative nature, but given the concentrations, the size of the impacted area, and number of each species in the area, the assessment concluded that the site contamination does not pose an unacceptable risk to any of these receptors.

3.3 BENEFICIAL USE AND HOT SPOT DETERMINATION

3.3.1 Groundwater Beneficial Use Determination

A Beneficial Water Use Determination for groundwater was performed in 2002 (Baxter, 2002a). Beneficial uses were evaluated for each water-bearing zone considering current use and the following factors:

- Historical land and water uses
- Anticipated future land and water uses
- Concerns of community and nearby property owners
- Regional and local development patterns
- Regional and local population projections
- Availability of alternate water sources

The Beneficial Water Use Determination showed the reasonably likely future beneficial use of groundwater is irrigation and industrial use. No drinking water wells were identified in 2002 within the area of the plume. However, seven irrigation wells have been located within this area. The detailed results of the determination are presented in the feasibility study (GSI, 2016). An updated well search was completed on the Oregon Department of Water Resources database in 2015 and no new drinking water wells were identified. One new irrigation well was identified. The detailed results of the determination are presented in the feasibility study (GSI, 2016).

3.3.2 Surface Water Beneficial Use Determination

The main surface water feature in the locality of facility is the Roosevelt Channel, which drains into Amazon Creek approximately two miles to the west. This channel serves as the area's stormwater drainage channel. Minor surface runoff drainage ditches to the east, south along the railroad tracks, and to the west of the facility all flow into Roosevelt Channel.

Beneficial use could include irrigation, occasional recreation, fish and aquatic habitat, and the aesthetic quality of Amazon Creek and the Willamette River.

3.3.3 Hot Spots

As previously discussed in Section 3.3.1 the future beneficial use of groundwater in the locality of the facility is irrigation and industrial purposes. Because concentrations of PCP in groundwater exceed proposed cleanup levels for the designated beneficial uses, the groundwater plume shown in Figures 6 and 7 is considered a hot spot for the Site.

The nonaqueous-phase liquid present at the Site is old and non-mobile so cannot be collected in the well. Consequently, there are no hot spots related to a non-aqueous phase and the focus will be on treating the dissolved phase in the groundwater.

Hot spot concentrations were exceeded for arsenic in surface and subsurface soils as shown on Figure 11a. Soil hot spot areas at the facility include the main treatment area and other areas designated in the figure that have higher soil concentrations from historic operations.

3.4 PILOT TESTS AND INTERIM REMEDIAL ACTIONS

Several pilot tests and interim remedial actions have been performed at the facility. These are described in the RI report (Keystone 1991) and are summarized below.

3.4.1 Groundwater Extraction and Treatment System

In 1993, Baxter installed a groundwater extraction and treatment system, which extracts from three wells located on the north and northwest boundaries of the site. One well, W-13S, is in the shallow zone, while the other two W-13I and W-20 are in the intermediate zone. They have a combined flow rate of approximately 50 gallons per minute. The groundwater is treated by flowing through an equalization tank, aeration tank, sand filter, and activated carbon units, which have been operational since January 1994. The treated water is sampled at the effluent tank and then discharged into Roosevelt Channel at Outfall 002 in accordance with the NPDES permit.

3.4.2 Stormwater Treatment System

Baxter installed a collection and treatment system for onsite stormwater in 1997. The system consists of catch basins located around the facility, aboveground piping to three 1-million-gallon storage tanks, flocculation and precipitation systems, and granulated activated carbon treatment. Treated stormwater is discharged to Outfall 001 under the current NPDES permit.

The 0.75-acre retention pond in the southwest corner of the facility is filled seasonally by precipitation and groundwater infiltration. On infrequent occasions, this pond receives overflow from the stormwater storage tanks. There is occasional overflow from the pond through a v-notch weir into the adjacent ditch. These overflows occur during extreme rainfall events so upgrades are planned for this system to help eliminate overflows, concurrent with the implementation of the remedial action for the contamination. This system and the discharges are overseen by the DEQ Water Quality Program through the NPDES permit, which requires regular sampling, reporting, and upgrades.

3.4.3 Offsite Tax Lot Removal Action

In October and November 1999, under DEQ oversight, Baxter conducted interim removal actions at three tax lots off the northeast corner of the Site (Tax Lot #401 - Yale Transport; TL#402 – Armored Transport; TL#6700/1629 - Lile of Oregon) (Figure 5). These sites had arsenic concentrations in soil above DEQ risk-based levels. Four separate areas on the three tax lots were remediated by excavation and removal of 416 cubic yards of soil (Baxter 2010a). Soil with concentrations above the DEQ hot spot levels were shipped offsite for disposal. Soil with concentrations below hot spot levels, but above the 10^{-6} cleanup standard was used to construct the tank base for two stormwater tanks installed in 2001, as described below (Baxter 2010a). Prior to the implementation of this removal action, DEQ held a 30-day public comment period and held a public meeting to present the proposed cleanup.

3.4.4 Stormwater Tank Base Cap

In August 2001, Baxter installed two one-million-gallon stormwater storage tanks (T-102 and T-103 on Figure 5) to upgrade their onsite stormwater treatment system, in accordance with requirements in their NPDES permit. The soil in the installation area contained unacceptable levels of arsenic, so Baxter added a portion of the arsenic-contaminated soil excavated from the off-site tax lots as mentioned above. A protective, engineered cap was constructed over the impacted soils to create a foundation for the new tanks. The cap consisted of placing a geotextile liner over the impacted soil, and then topping it with 12 inches of imported crushed rock. The tanks were then placed over the rock. DEQ considers this protective of the workers on site as long as the tanks are in-place and the soil cap is maintained. These requirements are included as institutional controls as part of this remedial action for the site.

The onsite containment of contaminated soil from the offsite tax lots required a Resource Conservation and Recovery Act Hazardous Waste Exemption. The exemption was granted by DEQ on July 20, 2001 in accordance with ORS 465-260(2), OAR 340-122-0070, and ORS 465.315(3) (DEQ 2001, Baxter 2010a).

4. PEER REVIEW SUMMARY

A project team consisting of a project manager, hydrogeologist, engineer, and a toxicologist have been involved throughout the course of this project. Team members have reviewed project documents such as work plans, draft and final versions of the RI, FS, HHRA, and interim remedial action plans, and have submitted comments on these documents. Team members have also participated in various meetings with Baxter and their consultants to discuss the investigation, risk, and remedial options. Written comments, final documents, and DEQ's written approvals are maintained in the project file, and are a part of the Administrative Record for the Site, under Environmental Cleanup Site Information (ECSI) Site ID# 055. The project team unanimously supports the remedial action described herein (Signatures are in Section 8).

5. DESCRIPTION OF REMEDIAL ACTION OPTIONS

5.1 REMEDIAL ACTION OBJECTIVES

Based on ORS 465.200 through 465.900 and OAR 340-122; consideration of other laws, standards, and guidance; and the results of the remedial investigation and risk assessment; the following cleanup levels and remedial action objectives have been selected for soil and groundwater.

5.1.1 Cleanup Levels

The cleanup levels are equal to concentrations that meet the acceptable risk level, as defined in OAR 340-122-0115(1) through (6), except for arsenic, which has a cleanup level equal to the naturally-occurring background level. This means the site is not contributing any additional risk beyond the naturally occurring levels of arsenic. The following acceptable cleanup levels were calculated for groundwater and soil to protect the identified beneficial uses and potential receptors:

	Cleanup Level (µg/L)		Cleanup Level (mg/kg)	
COC	Groundwater		Soil	
Arsenic	N/A	a	18	c
Pentachlorophenol	1.5 (industrial), 0.65 (residential)	b	N/A	a
Benzo(a)pyrene	N/A	a	0.27	d
Dibenzo(a,h)anthracene	N/A	a	0.27	d
Dioxins/furans*	N/A	a	2×10^{-5}	d

[a] N/A = Not applicable because chemical is not a COC for given medium.
[b] Risk-based concentrations protective of industrial (non-drinking) groundwater use and offsite residential irrigation, respectively.
[c] DEQ South Willamette Valley regional background, DEQ (2013).
[d] Risk-based concentration protective of direct contact with soil by onsite workers (from Risk Assessment, 2014).
COC = chemicals of concern, µg/L = microgram per liter, µg/kg = microgram per kilogram
*Dioxin/furan cleanup level is the toxic equivalent quotient value.
All cleanup levels developed from exposure factors from 2018. These will be revaluated at five-year reviews and updated as appropriate to ensure protectiveness.

5.1.2 Remedial Action Objectives

Site-specific remedial action objectives (RAOs) were developed for soil and groundwater in order to achieve protection of human health, ecological receptors, and beneficial uses, as required by OAR 340-122-0040. The RAOs for the Site are:

Soil:

- Prevent human exposure to onsite surface and subsurface soil, including hot spots, containing COCs, including arsenic, benzo(a)pyrene, dibenzo(a,h)anthracene, and dioxins/furans, at concentrations above DEQ's acceptable risk levels. The current applicable cleanup levels are listed in Section 5.1.1.

Groundwater:

- Prevent human exposure to PCP in groundwater above the acceptable risk levels onsite and offsite.
- Prevent or minimize further offsite migration of COCs.
- Reduce the concentrations of COCs in offsite groundwater to achieve cleanup levels, or to the lowest concentrations feasible above those levels with active treatment, and to protect human health and the environment.

5.2 REMEDIAL ACTION ALTERNATIVES

General response actions and remedial technologies were screened in the FS (GSI, 2016). The general response actions considered were soil excavation and disposal, capping, groundwater containment, groundwater extraction and treatment, in situ biological treatment and recirculation, monitored natural attenuation (MNA), institutional and engineering controls. Viable combinations of technologies were assembled into remedial action alternatives to meet the RAOs, which are described in detail in the FS (GSI, 2016).

The six remedial alternatives below were evaluated in detail in the FS (GSI, 2016). The alternatives were also described in the ODEQ Staff Memorandum (DEQ, 2019) that was available for public comment.

<u>Remedial Alternatives Considered:</u>

- Alternative 1: No Action, which is used as a "do-nothing" baseline for evaluation purposes.
- Alternative 2 (Figure 13):
  - Soil capping of the 16 acres of impacted soil,
  - Soil hot spot excavation and consolidation in the current wastewater pond, followed by capping the pond area
  - Enhanced groundwater extraction with four new extraction wells,
  - MNA for offsite groundwater contamination.
- Alternative 3 (Figure 14):
  - Soil capping of the 16 acres of impacted soil,
  - Soil hot spot excavation and trucking offsite to an approved disposal site,

- Enhanced biodegradation recirculation system using four new groundwater extraction wells and treating the water by recirculating it through the vadose zone via an aeration trench,
- MNA for offsite groundwater contamination.

- Alternative 3a (Figure 15):
  - Soil capping of the 16 acres of impacted soil, including the hot spots of arsenic,
  - The contaminated soil from the ditch in the southwest portion of the facility will be excavated and placed in the wood storage area, rather than the pond, before being capped with soil.
  - Cap the soil/sediments in the pond,
  - Groundwater extraction and treatment using the existing treatment system,
  - Regular updates to the Beneficial Water Use Determination with a contingency plan for any drinking water wells that may be found offsite,
    - If a well is identified for domestic use, Baxter will notify DEQ immediately.
    - The owner would be contacted to determine if and how they are using the well, and to ask permission to sample the water.
    - If the sample results and use are such that there could be unacceptable risk, Baxter will work with them to develop an acceptable alternative, subject to approval from DEQ.
    - The details of an acceptable alternative, to include a potential wellhead filtration system, will be included in the RD/RA work plan.
  - MNA for offsite groundwater contamination,
  - Institutional Controls as described below:
    - Baxter will develop a RD/RA work plan that will detail the long-term operations and maintenance of the groundwater extraction system, design and maintenance of the soil cap, monitoring and maintenance of monitoring wells, and procedures for updating the Beneficial Water Use Determination. This will include periodically inspecting the soil cap and maintaining or repairing it as necessary to maintain the integrity.
    - Baxter will regularly report to DEQ on the integrity of the capped areas and summarize any work performed to repair or maintain the cap during the past year and any work scheduled to repair or maintain the cap in the upcoming year.
    - Baxter will conduct a regular review of the Oregon Water Resources Department records for any new well installation. If a new well has been installed, Baxter will immediately notify DEQ and attempt to contact the well owner to eliminate unacceptable exposure. The

specifics of well-head treatment contingencies and other resolution options will be detailed in the RD/RA work plan.

- Baxter will record an Easement and Equitable Servitudes on the Property that will include obligations to:
  - Maintain the capped areas of the Property,
  - Restrict groundwater and land use on the Baxter property from residential or agricultural use,
  - Compliance with the RD/RA work plan, and
  - Installation of residential well-head treatment as needed, as part of an off-site groundwater use contingency plan.

- Alternative 4 (Figure 16):
  - Soil capping of the 16 acres of impacted soil,
  - Soil hot spot excavation and trucking offsite to an approved disposal site,
  - Groundwater treatment via installation of a low-permeability sub-surface containment wall and then extracting and treating the water from within the containment wall
  - MNA for offsite groundwater contamination.
- Alternative 5 (Figure 17):
  - Excavate the entire 16 acres of soil and truck it to an approved disposal site, and
  - MNA for offsite groundwater contamination.

With each of the remedial action options, there would also be a long term operation and maintenance plan developed that will include a Five Year Review (FYR) to monitor the performance of the selected remedy. On a five year basis, DEQ and Baxter will review all of the available data on the performance of the selected remedy and evaluate the ability of the remedy to meet the RAOs. The objective of the FYR will be to maintain the overall protectiveness of the selected remedy. The methodology for this review will be specifically detailed in the RD/RA workplan; however, at a minimum, it will establish a series of decision criteria and related response actions for each potential area of uncertainty identified above, and the RAOs identified in Section 5.1.2 of this report.

A key component of the FYR will be a review of both performance monitoring data, effectiveness of the long-term operations and maintenance plan, and local land and water uses. If monitoring data exceed trigger values in select monitoring wells, an expanded monitoring program will be initiated. If the supplemental monitoring indicates that the RAOs are not being met, additional remedial actions will be evaluated to ensure that human health and the environment are protected.

6. EVALUATION OF REMEDIAL ACTION OPTIONS

6.1 EVALUATION CRITERIA

The criteria used to evaluate the remedial action alternatives are defined in OAR 340-122-0090, and establish a two-step approach to select a remedial action. The first step evaluates whether a remedial action is protective. The remedial alternatives considered protective are then compared using five balancing factors:

1. Effectiveness in achieving protection,
2. Long-term reliability,
3. Implementability,
4. Implementation risk, and
5. Reasonableness of cost.

Where a hot spot has been identified, an evaluation of how each alternative achieves the specific requirements for treatment of hot spots is considered. The alternative that compares most favorably against these balancing factors is selected for implementation. Then, a residual risk assessment is conducted for the selected alternative to document that it is protective of human health and the environment. This analysis is summarized in the sections below, but for further detail, the reader should review the FS (GSI, 2016).

6.2 PROTECTIVENESS

DEQ requires that a selected remedy must be protective, and not result in unacceptable risk to human health or ecological receptors. Specifically, "protectiveness is defined as meeting the acceptable risk levels specified in OAR 340-122-0115 for individual carcinogens (10-6), multiple carcinogens (10-5), non-carcinogens (Hazard Index of 1). The protectiveness of each remedial action was evaluated by comparing current or estimated future COC concentrations to the concentrations needed to meet acceptable risk levels. The pathways for which the anticipated maximum concentration of a COC exceeds the acceptable levels are:

- Direct contact with arsenic, benzo(a)pyrene, dibenzo(a,h)anthracene, and dioxins/furans in onsite soil by an industrial worker, and in onsite groundwater that could seep into deep excavations by a trench worker.

- Direct contact with PCP in offsite groundwater by an industrial worker

- Direct contact with PCP, PAHs, and dioxins/furans in offsite groundwater through irrigation wells

These are the pathways that were directly evaluated to establish if a given remedial alternative was protective.

Alternatives 2 through 5 result in a protective outcome because they address the pathways described above. However, some of these alternatives may require a longer time period to attain the criteria while others, such as Alternative 5, may attain the criteria in a short time.

Alternative 5, including excavation and offsite disposal, would provide the most complete and rapid removal of COCs, eliminate the majority of the source area and future releases, and is ranked highest for meeting the threshold criteria. Alternative 5 would remove risks from dermal exposure to surface and near surface soil. However, some COCs would remain onsite at deeper depths, and would require ongoing monitoring to assess whether natural attenuation processes could effectively manage risks from the groundwater plume.

Alternatives 3 and 4 are ranked the next highest for protectiveness. Both of these alternatives manage residual risks of soil using proven containment technology to prevent dermal exposure (e.g., soil cap), and soil hot spots would be excavated and removed offsite for disposal. Groundwater would be managed by either the enhanced bioremediation recirculation system or containment wall with groundwater extraction and treatment.

Alternatives 2 and 3a are also protective, but fall slightly lower in ranking when compared to Alternatives 3 and 4 for protectiveness because hot spot soils would be contained onsite, rather than excavated and disposed of offsite.

Alternative 1 is not protective because risks associated with exposure to onsite soil, and potential off-site risks associated with groundwater beneficial uses could be above acceptable levels.

6.3 BALANCING FACTORS

The five remedial action alternatives determined to be protective (Alternatives 2 through 5) were evaluated against the balancing factors described in Section 6.1.

In the FS (GSI, 2016), each alternative was evaluated against the balancing criteria and assigned a numerical rating. A total score was calculated from these numerical ratings and used to rank the five remedial alternatives against each other. In calculating the total score, each element of each criterion was weighted equally. Table 6-1 shows a complete summary of these numerical rankings for each alternative.

The relative ranking of the alternatives for the balancing factors is based on the total score shown on Table 6-1. The highest ranked alternative is Alternative 3a and the lowest ranked alternative is Alternative 1. Thus, based on this balancing criteria, the selected alternative is Alternative 3a.

Table 6-1

Comparison of Balancing Factors for Remedial Action Alternatives

Alternative	Effectiveness	Long-term Reliability	Implementability	Implementation Risk	Reasonableness of Cost	Total Score
1. No Action	1	1	1	4	5	12
2. Capping, hot spot excavation and consolidation, enhanced groundwater treatment, MNA	3	4	2	3	3	15
3. Capping, hot spot excavation and disposal, enhanced biodegradation and recirculation, MNA	2	3	2	3	3	13
3a. Capping, ex situ groundwater treatment, MNA, groundwater contingency plan	**4**	**4**	**4**	**4**	**4**	**20**
4. Capping, hot spot excavation and disposal, physical/hydraulic containment, MNA	3	3	2	2	2	12
5. Capping, excavation and disposal, MNA	5	5	1	1	1	13
Notes: **Bold font** indicates preferred alternative.						

6.4 PUBLIC PROCESS

A public comment period on DEQ's recommended remedial action occurred from May 1 until June 14, 2019 and a public meeting was held on June 11, 2019. ORS 465.320 requires a minimum of a 30-day comment period, but the total period was 45 days to allow additional comments and a public meeting.

Notice announcing the comment period and public meeting was published as a legal ad in the Eugene Register-Guard newspaper, in the Oregon Bulletin, and on DEQ's web site on May 1, 2019. DEQ staff emailed Beyond Toxics and the Bethel Neighborhood Association regarding the public comment period and meeting. DEQ also invited representatives of LRAPA and OHA to attend. LRAPA was able to attend and provide additional information to meeting attendees.

The public meeting was attended by approximately 30 people and comments were also received via email and phone. All of the comments as well as the responses are in Appendix C. There were many specific comments that have specific responses presented in Appendix C, but two general categories emerged through all of the comments and they are summarized below:

1) Concern regarding air emissions and their possible impacts on human health; and
2) Questions about current concentrations in offsite water and the stormwater ditches.

Category 1: If anyone is experiencing immediate health problems, they should work with their primary care provider. There are many possible causes for health issues and DEQ cannot address those directly.

DEQ does not have any evidence of an existing, unacceptable risk to human health from chemicals coming from the J.H. Baxter facility. Further, the selected remedy described in this ROD will further reduce the risk of any unacceptable exposure from soil and groundwater.

Specifically related to the air quality, Lane Regional Air Protection Agency (LRAPA) is the agency overseeing the air emissions at J.H. Baxter. DEQ has been in contact with them throughout the development of this ROD. To get direct information on the air permit for J.H. Baxter or to file a specific odor complaint, community members can visit the LRAPA website at: www.lrapa.org or call 541-726-1930.

Category 2: There was significant public concern around the potential for exposure to contamination in the stormwater discharges. The data collected during the site investigations through the years indicated some contamination in the ditches, but with the exception of a small area to the south of the facility, the concentrations did not indicate a risk to human health or animals.

However, due to the comments received, DEQ reviewed all of the data again and agreed that the information was outdated. Therefore, the cleanup action recommended in the May 2019 Staff Report and selected herein has been revised to include sampling of the surface water, sediment, and soil in offsite areas that could reasonably have been impacted by contaminant discharges from the facility to update the historical data. Baxter will write a sampling and analysis plan for DEQ-approval and then the sampling will be carried out by a qualified person.

7. SELECTED REMEDIAL ACTION ALTERNATIVE

Based on the detailed evaluation of the alternatives in the FS, which were summarized in Sections 5 and 6, DEQ has selected Alternative 3a for implementation at the Site. Alternative 3a is protective and was the highest rated for the balancing factors. This remedial alternative can be implemented in a reasonable time while allowing continued facility operations and it would achieve beneficial results in an acceptable time frame.

7.1 DESCRIPTION OF THE SELECTED ALTERNATIVE

Alternative 3a was selected for the remedy, and will include the following components:

- Capping of contaminated soil, including the hot spots of Arsenic, with an engineered cap of at least 6 to 12-inches of asphalt and/or compacted gravel over a geotextile fabric.
- Excavating contaminated soil from the ditch in the southwest portion of the facility and consolidating it with the existing soil contamination in the wood storage area before capping.
- Capping of the contaminated sediment in the bottom of the pond onsite with an engineered cap of at least 3-inches of compacted gravel over permeable liner. The liner is permeable to allow groundwater connection with the pond, but will prevent movement of the contaminated sediment.
- Maintaining the cap that currently exists over the Tram Storage Area.
- Operating and maintaining the existing groundwater extraction and treatment system, which includes three extraction wells pumping into a granulated activated carbon filtration system, which removes both PAHs and PCPs from the groundwater.
- Long-term groundwater monitoring to confirm that the ex-situ groundwater treatment system remains effective in achieving contaminant reduction and containment for the source area, and that MNA achieves contaminant reduction within the plume downgradient of the recovery wells, including offsite groundwater that has been affected by the facility.
- Surveying the surrounding neighborhoods for water use on a regular basis with a specific contingency plan for any new wells discovered. The details of an acceptable contingency plan, to include a potential wellhead filtration system, will be included in the RD/RA work plan.

- Sampling of the surface water, sediment, and soil in offsite areas that reasonably could have been contaminated from the facility in order to update historical sampling results and the associated risk evaluation.

- Establishing institutional controls that will ensure implementation and long term maintenance of the remedial action; and protection of human health until RAOs are met.

- Completing FYRs of the protectiveness of the selected remedial action.

The soil cap can be implemented over several years so it will not disrupt ongoing operations. The RD/RA work plan will provide the specific design details for DEQ approval, along with details of the rest of the remedy. Further detail of this remedial alternative is described in Section 5.2 and shown in Figure 15.

The offsite sampling of the soil, sediment, and surface water will be detailed in a sampling and analysis plan, submitted to DEQ for approval prior to the field work.

7.2 RESIDUAL RISK ASSESSMENT

OAR 340-122-0084(4)(c) requires a residual risk evaluation of the selected remedial action that demonstrates that the standards specified in OAR 340-122-0040 will be met, namely:

- Assure protection of present and future public health, safety, and welfare, and the environment.

- Achieve acceptable risk levels.

- For designated hot spots of contamination, evaluate whether treatment is reasonably likely to restore or protect a beneficial use within a reasonable time.

- Prevent or minimize future releases and migration of hazardous substances in the environment.

Because the selected remedy eliminates exposures to COCs in soil and groundwater (and provides a contingency plan for potential future exposures to COCs in offsite groundwater), there will no longer be any complete exposure pathways to elevated levels of COCs at the Site, and a formal residual risk assessment for post-remedy conditions was not performed. However, the remedy is deemed protective of human health and the environment because there will no longer be direct exposure to contaminated soils at the Site, and a contingency plan is in place to prevent current and future exposure to groundwater in conjunction with ex situ treatment. Additionally, this assessment will be revisited at each FYR.

7.3 STATUTORY DETERMINATION

The selected RA for the contamination at the J.H. Baxter site is considered to be protective, effective, reliable, and cost-effective. The selected remedy is consistent with the current and future anticipated use of the site and is protective of current and future anticipated beneficial water use within the site's LOF. The selected remedy, if properly implemented, will ensure that contaminant exposure is below acceptable risk levels.

8. SIGNATURES

DEQ
State of Oregon
Department of
Environmental
Quality

MANAGEMENT APPROVAL FORM
Final Approval
Department of Environmental Quality
Western Region

REPORT/DOCUMENT TYPE:
J.H. Baxter Facility - Eugene, Oregon
ECSI File #55

Record of Decision

Date: 14-Oct-2019

Please review the attached document which describes a staff recommendation regarding an environmental cleanup activity. The approved preliminary recommendation was advertised for public comment as required by ORS 465.320. The public comment period has ended. The attached document includes a discussion of public comments received and how those comments affected the final decision.

FINAL APPROVAL:

[signature]
Michael E. Kucinski, Manager
Western Region Cleanup and Emergency Response

10/14/2019
Date

State of Oregon
Department of
Environmental
Quality

PEER REVIEW COMMENTS & APPROVAL FORM

J.H. Baxter Facility - Eugene, Oregon
ECSI File #055
Record of Decision
(Attached)

Date: 28 Aug 2019

Please review and comment on the attached document. It is the Record of Decision, which consists of the staff report and response to public comments. Please provide comments by August 9, 2019 and/or sign below as approval.

Route to the following technical team members:

Don Hanson, Lead worker & Hydrogeologist,	Signature	Date 9/25/19
Susan Turnblom - Toxicologist	Signature	Date 9/25/19
Ann M. Farris, Project Manager	Signature	Date 8/28/2019

9. REFERENCES

AMEC. 2014. Technical Memorandum. Subject: Revised Baseline Human Health Risk Assessment Addendum. To: Geoff Brown, Oregon DEQ. AMEC Environmental and Infrastructure, Inc. February 19, 2014.

Baxter. 2002a. Beneficial Water Use Determination, J.H. Baxter & Co. Eugene, Oregon Facility. Prepared by J.H. Baxter &Co. June 28, 2002.

Baxter. 2002b. Draft RI Summary Report, J.H. Baxter & Co. Eugene, Oregon Facility. Prepared by J.H. Baxter &Co. June 28, 2002.

Baxter. 2002c. Draft Human Health Risk Assessment. J.H. Baxter & Company, Eugene, Oregon Facility. Prepared for Oregon Department of Environmental Quality by J.H. Baxter. September 20, 2002.

Baxter. 2006a Revised Baseline Human Health Risk Assessment. Prepared for Oregon Department of Environmental Quality by J.H. Baxter. July 28, 2006.

Baxter. 2009. Second Half 2008 Groundwater Monitoring Report, J.H. Baxter & Co., Eugene, Oregon Facility. Prepared by J. H. Baxter & Co. June 3, 2009.

Baxter. 2010a. Remedial Investigation Summary Report, Revision 1, J.H. Baxter & Co. Wood Treating Facility, Eugene, Oregon. Prepared by the J.H. Baxter Project Team, March 10, 2010.

Baxter. 2010b, Remedial Action Pilot Study Report Stella-Jones (formerly J.H. Baxter & Co.) Wood Treating Facility Arlington, Washington: Prepared by J.H. Baxter Project Team, October 2010.

Baxter. 2011b. Corrective Measures Study, Revision 2, Former J.H. Baxter Wood Treating Facility, Arlington, WA. Prepared by the J.H. Baxter Project Team. March 2011.

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DEQ. 2013. Development of Oregon Background Metals Concentrations in Soil. Technical Report, March 2013.

GSI. 2015. "Additional Information Requested Regarding Reduction in Monitoring Request Dated February 9, 2015," Technical Memorandum. Prepared by GSI Water Solutions on behalf of J.H. Baxter & Company, dated April 2, 2015.

GSI. 2016. Final Feasibility Study Report, J.H. Baxter & Co., Eugene, OR Facility. Prepared for J.H. Baxter & Company. February 2016.

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Keystone. 1994. Remedial Investigation Report (Phase II) of J.H. Baxter & Co. Eugene, Oregon Site. Prepared by Keystone Environmental Ltd. for J.H. Baxter & Company. October 1994.

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APPENDIX A
ADMINISTRATIVE RECORD INDEX
J.H. Baxter Facility
Eugene, Oregon

The Administrative Record consists of the documents on which the selected remedial action for the site was based. The primary documents used in evaluating remedial action alternatives for the Baxter-Eugene site are listed below. Additional background and supporting information can be found in the Baxter-Eugene project file, ECSI file number 55, located at DEQ Western Region Office, 165 East 7th Avenue, Suite 100, Eugene, Oregon.

SITE-SPECIFIC DOCUMENTS

AMEC. 2013. Technical Memorandum. Subject: Revised Baseline Human Health Risk Assessment Addendum. To: Geoff Brown, Oregon DEQ. AMEC Environmental and Infrastructure, Inc. November 4, 2013.

AMEC. 2014. Technical Memorandum. Subject: Revised Baseline Human Health Risk Assessment Addendum. To: Geoff Brown, Oregon DEQ. AMEC Environmental and Infrastructure, Inc. February 19, 2014.

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DEQ 2009a. Approval for Revised Beneficial Use Determination, June 28, 2002, JH Baxter, ECSI 55. Letter dated February 24, 2009.

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