

EXHIBIT B

DRAFT CLEANUP ACTION PLAN

**EVERGREEN FUEL FACILITY
661 EAST PINE STREET
SHELTON, WASHINGTON**

**Washington State Department of Ecology
300 Desmond Drive
Lacey, Washington 98503**

November, 2006

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FIGURES

Figure 1 *Site Location Map*

Figure 2 *Site Plan Map Showing Cleanup Action Target Areas*

ACRONYMS AND ABBREVIATIONS

ARARs	applicable or relevant and appropriate requirements
ASTs	aboveground storage tanks
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
COCs	constituents of concern
DCAP	Draft Cleanup Action Plan
DRO	diesel-range organics
Ecology	Washington State Department of Ecology
Farallon	Farallon Consulting, L.L.C.
Final FS Report	Final Feasibility Study Report
Final RI Report	Final Remedial Investigation Report
GRO	gasoline-range organics
mg/kg	milligrams per kilogram
µg/l	micrograms per liter
MTCA	Washington State Model Toxics Control Act Cleanup Regulation
ORO	oil-range organics
PAHs	polycyclic aromatic hydrocarbons
PLPs	potentially liable parties
PQL	practical quantitation limit
RCW	Revised Code of Washington
RI	Remedial Investigation
Site	Areas of the Evergreen Fuels Facility where constituents of concern (COCs) were detected exceeding the appropriate MTCA cleanup levels, as

well as any areas outside of the facility where concentrations of COCs exceeding the appropriate MTCA cleanup levels may exist which are contiguous with facility contamination. Non-contiguous off-facility contamination (if any had existed) may also have been considered as part of the Site, or otherwise may have been considered as a separate site.

SVOCs	semivolatile organic compounds
TPH	total petroleum hydrocarbons
USTs	underground storage tanks
VOCs	volatile organic compounds
WAC	Washington Administrative Code

1.0 INTRODUCTION

This Draft Cleanup Action Plan (DCAP) has been prepared for the Evergreen Fuel Facility located at 661 East Pine Street in Shelton, Washington (herein referred to as the Site) (Figure 1). The DCAP has been prepared in accordance with the requirements of Agreed Order No. DE 03TCPSR-5707 issued by the Washington State Department of Ecology (Ecology) pursuant to the authority of Chapter 70.105D.050(1) of the Revised Code of Washington (RCW 70.105D.050[1]), and entered into by the potentially liable persons (PLPs), C.C. Cole and Sons, Inc. and Chevron USA Products Company, to meet the requirements of the Washington State Model Toxics Control Act Cleanup Regulation (MTCA), as established in Chapter 173-340 of the Washington Administrative Code (WAC 173-340). The DCAP describes the Site, the nature and extent of contamination, the cleanup action alternatives considered, and the proposed cleanup action for soil, groundwater, and surface water with concentrations of petroleum hydrocarbon compounds, collectively referred to as constituents of concern (COCs), above the applicable MTCA cleanup levels. The DCAP will be implemented pursuant to a Consent Decree or an Agreed Order between the PLPs and Ecology.

Previous work conducted at the Site to meet the requirements of Agreed Order No. DE 03TCPSR-5707 included a Remedial Investigation (RI), the results of which are presented in the Final Remedial Investigation Report dated December 2, 2005, prepared by Farallon Consulting, L.L.C. (Farallon) (Final RI Report), and a Feasibility Study, the results of which are presented in the Final Feasibility Study Report dated July 10, 2006, also prepared by Farallon (Final FS Report). The Site is defined as areas where contiguous concentrations of one or more of the COCs were detected exceeding the MTCA cleanup levels defined in the Final FS Report.

1.1 PURPOSE

The DCAP has been prepared in accordance with WAC 173-340-380 to present the proposed cleanup action and to specify cleanup standards and other requirements for the cleanup action. The cleanup action will meet the threshold requirements of WAC 173-340-360 to protect human health and the environment, comply with cleanup standards, comply with applicable state and federal laws, and provide for compliance monitoring. The cleanup action proposed by Ecology in this DCAP includes:

- Excavation of soil with concentrations of one or more of the COCs that exceed MTCA cleanup levels, within the limits of practicability, for off-Site disposal; and
- Implementation of enhanced aerobic bioremediation to treat groundwater, including groundwater discharging as surface water, that may contain residual concentrations of one or more of the COCs that exceed MTCA cleanup levels after removal of contaminated soils.

1.2 CLEANUP ACTION PLAN ORGANIZATION

The DCAP has been organized into the following sections:

- **Section 1 – Introduction:** This section provides the purpose and scope of the DCAP.
- **Section 2 – Site Description and Background:** This section provides a description of the Site, Site history, and surrounding properties.
- **Section 3 – Remedial Investigation:** This section presents a summary of the results of the RI and a description of the conceptual site model.
- **Section 4 – Cleanup Standards:** Section 4 presents a description of the technical elements for the proposed cleanup action, including the applicable laws and regulations, COCs, media of concern, cleanup standards, and the terrestrial ecological evaluation.
- **Section 5 - Evaluation and Selection of Cleanup Action Alternatives:** This section presents a summary of the evaluation of technically feasible cleanup action alternatives for the Site.
- **Section 6 – Proposed Cleanup Action:** This section provides a discussion of the proposed cleanup action alternative and monitoring requirements.
- **Section 7 – Additional Requirements:** This section describes the documentation to be provided for the proposed cleanup action, including an Engineering Design Report, construction plans and specifications, and a Compliance Monitoring Plan.
- **Section 8 – References:** Section 8 lists the documents cited in the DCAP.

2.0 SITE DESCRIPTION AND BACKGROUND

This section presents a description of the Site, a summary of the Site history, and a discussion of surrounding property use. Additional details regarding the Site setting and historical activities are provided in the Final RI Report.

2.1 SITE DESCRIPTION

The Site is located adjacent to State Route 3 in Shelton, Mason County, Washington, in the northeast quarter of the northwest quarter of Section 20, Township 20 North, Range 3 East (Figure 1). The Site is defined as the areas of the Evergreen Fuels Facility where constituents of concern (COCs) were detected exceeding the appropriate MTCA cleanup levels, as well as any areas outside of the facility where concentrations of COCs exceeding the appropriate MTCA cleanup levels may exist which are contiguous with facility contamination. Non-contiguous off-facility contamination (if any had existed) may also have been considered as part of the Site, or otherwise may have been considered as a separate site. The physical boundaries of the Site are defined by the detected concentrations of COCs based on the results documented in the Final RI Report, and are depicted on Figure 2. The property owned by C.C. Cole and Sons, Inc. includes areas that are not part of the Site. Additionally, a portion of the City of Shelton Pine Street right-of-way is included in the Site, based on the detected concentrations of COCs in soil, and groundwater discharging as surface water at this location (Figure 2).

The Site is located on flat land at the base of a steep, vegetated hillside on Oakland Bay, an embayment of Puget Sound. The current features on the Site include an office building, a warehouse, a top-loading fueling station, and six aboveground storage tanks (ASTs) (Figure 2). The areas of the Site that are not covered by buildings or structures are covered by gravel or vegetation. The Site was previously used for the storage, distribution, and sale of gasoline, diesel, heating oil, kerosene, and other petroleum products. These operations have been discontinued, and the Site currently is not in use. Demolition of the existing Site structures may occur prior to the cleanup action.

2.2 SITE HISTORY

The Site was used as a bulk fuel storage and sales facility from the early 1900s (Langseth Environmental Services, Inc. 1998). The Site was owned and operated by the Standard Oil Company from the early 1900s until the 1930s, when C.C. Cole and Sons, Inc. began operating the Evergreen Fuel Facility under the Standard Oil Company brand. In May 1980, C.C. Cole and Sons, Inc. purchased the Site from Chevron Products Company (formerly the Standard Oil Company), and operated the bulk fuel facility continuously from that time until operations were discontinued in late 2005. ASTs and aboveground piping were used for bulk fuel storage and transfer at the Site. Underground storage tanks (USTs) are not reported to have been used at the Site. Four fuel loaders were located east of the existing fueling station on the property (Figure 2).

As documented in the Final RI Report, a variety of additional products were stored on the upland portion of the property (Farallon 2005). These products included aviation fuel, motor oil, solvents, white gas, paint thinner, roof coatings, floor hardeners, wood preservatives, and creosote. These compounds were delivered to the property on pallets in containers ranging from 1- to 55-gallon capacity, stored in the warehouse, and distributed directly to customers. These compounds were not used on the property or transferred out of their containers.

The property located on the northern side of State Route 3 was owned by Chevron Products Company, who leased the property to C.C. Cole and Sons, Inc. In 1973, the property on the northern side of State Route 3 was purchased by C.C. Cole and Sons, Inc. Five ASTs ranging from 8,000- to 16,000-gallon capacity and used for storage of diesel fuel and gasoline were located on the northern property. The ASTs were filled through aboveground piping that extended from a barge off-loading area formerly located on the dock, through underground piping that extended from the eastern end of the dock at the Shelton Marina, beneath State Route 3, to the ASTs. Diesel fuel and gasoline from the ASTs were distributed through underground piping beneath State Route 3 and through aboveground piping on the property. Although the property on the northern side of State Route 3 was abandoned in favor of the current location on the western portion of the property, the timing and details regarding abandonment and/or removal of the former ASTs are not known.

The results of the RI did not detect concentrations of COCs in soil on the property located on the northern side of State Route 3; therefore, the cleanup action for the Site addresses only the portion of the property on the southern side of State Route 3, where concentrations of COCs were detected in soil and groundwater.

Bulk diesel fuel and gasoline were delivered to the property via barges from 1913 until approximately 1967. An off-loading area that was located on the dock at the Shelton Marina conveyed diesel fuel and gasoline to the property via piping that extended along the underside of the dock. According to Port of Shelton documents, the Shelton Marina has been owned and operated by the Port of Shelton since 1951 (Port of Shelton 2005). It is not known whether barge off-loading occurred at the current dock, or whether another dock(s) was formerly located at the Marina.

Environmental investigations by Ecology were initiated at the Site in response to a release of diesel into the surface water of Oakland Bay reported by the Washington State Patrol. The Ecology spill responder identified that the spill occurred by the overflowing of one of the ASTs on the Site (Farallon 2005). According to the follow-up report completed by Ecology on March 13, 2003, a lieutenant with the Shelton Fire Department estimated that 50 to 70 gallons of diesel fuel had been released to Oakland Bay, and that a total of 300 to 400 gallons of diesel fuel had been released to the environment.

Spill response personnel from Foss Environmental placed 500 feet of absorbent boom along the southern waterfront, and sorbent material inside the tank-containment area. On March 13 and 14, 2003, Foss removed the absorbent boom from the waterfront, and removed approximately 1 ton of debris and material from inside and adjacent to the tank-containment area.

The analytical results of soil samples collected by Ecology from within the tank containment area detected concentrations of total petroleum hydrocarbons (TPH) as diesel-range organics (DRO) at concentrations ranging from 2,500 to 21,900 milligrams per kilogram (mg/kg), which exceed the MTCA Method A cleanup level of 2,000 mg/kg (Farallon 2004). In April 2003, an anonymous party reported an unidentified sheen on the surface water of Oakland Bay. The Ecology spill responder observed a groundwater seep with a “rainbow sheen” and a strong diesel odor flowing from beneath the AST concrete containment system (Farallon 2004). Ecology collected two soil samples from near the bulkhead south of the Site. Analytical results of one of the samples collected from soil located in the Pine Street right-of-way detected a concentration of 450 mg/kg of TPH as gasoline-range organics (GRO) identified as weathered gasoline, and coal tar creosote. The analytical results of the other soil sample, collected adjacent to the boat cradle with launching rails on the Simpson Timber Company property, detected a concentration of 10,700 mg/kg of DRO identified as #2 fuel oil or #2 diesel.

2.3 SURROUNDING PROPERTIES

The Shelton Yacht Club and the Shelton Marina are located to the east-northeast of the Site. The City of Shelton Pine Street right-of-way is south-adjacent to the Site, beyond which is land owned by the Simpson Timber Company. Railroad tracks and property owned and operated by BNSF Railway Company are located to the northwest and west of the property. The water of Oakland Bay is located to the east and south of the Site (Figure 2).

The Shelton Yacht Club, located east-northeast-adjacent to the Site, leases the yacht club property from the Port of Shelton. The Shelton Marina, also located east-northeast-adjacent to the Site, is owned and operated by the Port of Shelton. The Shelton Marina includes docks and boathouses that extend over tidelands owned by C.C. Cole and Sons, Inc. and the Washington State Department of Natural Resources. Features at the Shelton Yacht Club and the Shelton Marina include a tidal grid, timber docks, covered and uncovered slips for moorage of marine vessels, a single-story wood-framed building supported by pilings, and a gravel parking area. Historical documentation on file with Ecology indicates that the Port of Shelton formerly owned and operated two USTs for fueling marine vessels at the docks. The exact location of the USTs, associated product piping, and fuel dispensers is not known.

The Pine Street right-of-way is located southwest-adjacent to the Site (Figure 2). Features of the right-of-way include a short abandoned dock, a tidal grid, upland soil, and tidal sediment. The operational history of the dock and tidal grid located in the Pine Street right-of-way is not known; however, the dock and tidal grid were not known to have been used by Chevron Products Company or C.C. Cole and Sons, Inc. at any time in the past. Historical information provided by C.C. Cole and Sons, Inc. indicates that an abandoned sanitary sewer outflow pipe, still located in the Pine Street right-of-way, formerly discharged sewage directly into Oakland Bay.

Located beyond the Pine Street right-of-way to the southwest is property owned by the Simpson Timber Company. The Simpson Timber Company facility includes a vacant single-story wood-frame and sheet metal-sided building supported by pilings, a small shed, and a boat cradle with launching rails that extend from the building to the water of Oakland Bay. The Simpson Timber Company facility operates as a sandblasting facility to clean log-boom boat bottoms.

Aboveground storage tanks were located between the facility building and State Route 3. This area has been evaluated by Ecology under a separate investigation.

3.0 REMEDIAL INVESTIGATION

This section presents a summary of the results of the RI and a description of the conceptual site model that was developed to assist in the evaluation and selection of feasible cleanup action alternatives. A more detailed discussion is presented in the RI Report (Farallon 2005).

3.1 REMEDIAL INVESTIGATION RESULTS

The RI field investigation encountered fill material consisting of silty, sandy gravels and silty sand across the upland portion of the Site from the ground surface to a depth of approximately 7 feet below ground surface (bgs). A flat-lying, laterally continuous 1- to 1.5-foot thick layer of fill consisting of silty sand and sandy silt was encountered across the upland portion of the Site at a depth of approximately 5 feet bgs. On the eastern side of the upland portion of the Site, a layer of silt is underlain by well-graded sand. The subsurface soils observed on the eastern side of the upland portion of the Site beneath the fill material include seaward-sloping stratified silty sand, gravel, and silt. The soils observed on the western side of the upland portion of the Site beneath the fill material consist of poorly graded sands and gravels to the total depth explored of 26.5 feet bgs.

The RI identified two water-bearing zones at the Site. A shallow water-bearing zone was encountered at a depth of approximately 7 feet bgs, with static water levels rising to approximately 3 to 5 feet bgs in monitoring wells screened in the shallow water-bearing zone. The groundwater flow direction in the shallow water-bearing zone is to the southeast, toward Oakland Bay. The results of a tidal study conducted as part of the RI indicated that the shallow water-bearing zone is not tidally influenced. However, there is groundwater exchange in one location at the Site, in which groundwater in the shallow water-bearing zone discharges directly to the surface soil through a surface seep.

A deeper water-bearing zone at the Site was encountered at a depth of approximately 26.5 feet bgs, with the static water level rising to approximately 7 to 11 feet bgs. The laboratory analytical results of groundwater samples collected from the deeper water-bearing zone indicates that groundwater in the deeper water-bearing zone has not been impacted by releases of contaminants at the Site. The results of the tidal study indicated a direct hydraulic connection between groundwater in the deeper water-bearing zone and the saline water of Oakland Bay. The groundwater flow direction in the deeper water-bearing zone likely fluctuates with tidal fluctuations.

The laboratory analytical results of soil samples and groundwater samples collected from the shallow water-bearing zone detected concentrations of GRO; DRO; and TPH as oil-range organics (ORO); benzene, toluene, ethylbenzene, and xylenes (BTEX); volatile organic compounds (VOCs); semivolatile organic compounds (SVOCs); and polycyclic aromatic hydrocarbons (PAHs) exceeding the screening levels established for the RI. Concentrations of GRO, DRO, and benzene exceeding the screening levels were detected in groundwater at a location where groundwater discharges to the surface waters of Oakland Bay.

A sample of sandy gravel was collected from the ground surface in an area located above the ordinary high tide elevation beneath seep sample location SG-1, where reddish-brown staining was observed. The laboratory analytical results indicated that the groundwater discharging at seep sample location SG-1 is resulting in concentrations of GRO and benzene exceeding the MTCA Method A cleanup levels for soil.

The results of sediment sampling and analysis conducted as part of the RI indicated that surface sediment quality is in compliance with WAC 173-204-310 under the designation procedures, does not constitute a station cluster of potential concern as defined under WAC 173-204-510, and does not require a hazard assessment (including confirmatory biological testing); therefore, no further cleanup action determinations were found to be necessary.

3.2 CONCEPTUAL SITE MODEL

The concentrations of GRO, DRO, and associated petroleum compounds detected in soil and groundwater are attributed to releases associated with the long-term operation of the bulk fuel storage and distribution facility at the property. The suspected sources of COCs to soil and groundwater at the Site appear to be surface releases from ASTs, aboveground piping, and fueling stations that infiltrated soil to groundwater. These sources include:

- Spills, overfills, drips, and fugitive leaks from the ASTs on the western portion of the Site;
- Spills, drips, and joint leaks from aboveground product piping;
- Spills, drips, and leaks from the former fuel loaders; and
- Spills, drips, and leaks at the fueling station.

The bulkhead and dock timbers have been treated with creosote. It is likely that PAHs have leached from the treated timbers and are the source of PAHs detected in soil and groundwater. The effect of leaching to the groundwater and/or surface water seem to be limited to the immediate vicinity of the timbers.

The concentrations of GRO, DRO, and BTEX exceeding the screening levels that were detected in soil are located in shallow soil on the western portion of the Site. The vertical distribution of concentrations of GRO and BTEX in soil exceeding the screening levels extends from the surface to depths of 4 to 8 feet bgs. The vertical distribution of concentrations of DRO in soil exceeding the screening levels extends from the surface to depths of 5 to 12 feet bgs. Concentrations of VOCs exceeding the screening levels were detected in soil in the same area where concentrations of GRO and/or BTEX were detected. The concentrations of PAHs detected in soil exceeding the screening levels occurred in the same area where low concentrations of DRO were detected.

The results of the RI detected concentrations of GRO, DRO, BTEX, and ORO in groundwater in the shallow water-bearing zone exceeding the screening levels. The detected concentrations of GRO, DRO, and BTEX in groundwater seem to be attributable to minor surface and shallow subsurface releases, and subsequent transport by gravity and surface water infiltration through

the vadose zone. Based on the detection of concentrations of TPH in a seep water sample, groundwater in the shallow water-bearing zone discharges directly to the surface in at least one area of the Site. The concentrations of TPH in seep water exceed the surface water screening levels established for the RI.

Surface releases of TPH from ASTs, aboveground piping, the fueling station, and the former fuel loaders have infiltrated through the ground surface to affect shallow subsurface soil from a depth of 4 feet bgs to the top of the shallow water-bearing zone at 6 to 8 feet bgs. The concentrations of GRO, BTEX, and associated VOCs exceeding the screening levels detected in soil on the western side of the Site can be attributed to spills and releases from the ASTs and aboveground piping. The concentrations of GRO and/or BTEX exceeding the screening levels in soil near the fueling station are attributable to transport through, and leakage from, the stormwater drain line from the AST area, preferential migration in the pipe bedding, and surface spills or leaks from the former fuel loaders. The concentrations of DRO and associated PAHs detected in soil exceeding the screening levels in the area surrounding the fueling station can be attributed to surface spills and releases from the fueling station, the former fuel loaders, and/or aboveground piping.

The distribution of concentrations of DRO in soil in the vicinity of monitoring wells MW-1 and MW-2 indicates that there may have been a surface spill from the ASTs located on the northern side of State Route 3 that impacted soil quality in this vicinity (Figure 2). A surface spill in this area may have been captured by the stormwater drain system, resulting in transport of fuel through the underground stormwater drain line to the AST area on the western side of the Site. The stormwater drain line may have leaked fuel and/or a fuel-water mixture following the spill, resulting in the concentrations of DRO detected in soil in the vicinity of monitoring wells MW-1 and MW-2.

The releases of TPH to soil have migrated through the vadose zone by a combination of gravity and infiltration of precipitation to impact the shallow groundwater-bearing zone. The groundwater flow direction of the shallow water-bearing zone is to the southeast, toward Oakland Bay. Groundwater with concentrations of TPH has migrated laterally with groundwater flow to the south-southeast as dissolved-phase TPH. The analytical data of water collected from seeps located along the base of the bulkhead indicate that groundwater in the shallow water-bearing zone containing concentrations of TPH exceeding the screening levels is discharged to the surface soil in one location.

4.0 CLEANUP STANDARDS

This section presents the cleanup standards for the cleanup action. Described below are the applicable laws and regulations, constituents of concern, media of concern, and standards for the cleanup action, including the definition of the cleanup levels and points of compliance. This section also presents a discussion of the terrestrial ecological evaluation.

4.1 APPLICABLE LAWS AND REGULATIONS

The applicable laws and regulations provide the framework for the cleanup action. WAC 173-340-360(2) and 173-340-710(1)(a) require that cleanup actions conducted under MTCA comply with applicable federal and state laws. Applicable laws are defined as those requirements that are legally applicable, as well as those that Ecology determines to be both relevant and appropriate. The applicable laws and regulations for the cleanup action likely will include the following:

- MTCA (RCW 70.105D);
- MTCA Cleanup Regulations (WAC 173-340);
- Sediment Management Standards (WAC 173-204);
- The State Environmental Policy Act (RCW 43.21);
- Substantive requirements of the City of Shelton Filling and Grading/Erosion Control permit requirements, and Shoreline Management Master Development permit requirements, as applicable; and
- Ecology's stormwater regulations, as described in the *Stormwater Management Manual for Western Washington* (revised 2005).

A comprehensive discussion of applicable laws and regulations is provided in the Final FS Report.

4.2 CONSTITUENTS OF CONCERN

The COCs for the cleanup action are those compounds that were detected in soil, groundwater, and surface water exceeding the cleanup levels defined in Section 4.4.1 below, and include:

- GRO for soil, groundwater, and surface water;
- DRO for soil, groundwater, and surface water;
- ORO for soil and groundwater;
- BTEX for soil, groundwater, and surface water;
- cPAHs for soil; and
- Naphthalenes for soil.

The laboratory practical quantitation limit (PQL) was used for the RI as a screening level for compounds with no published MTCA cleanup levels. The compounds detected exceeding the PQL screening level during the RI included the following VOCs and SVOCs:

- n-propylbenzene;
- 1,2,4-trimethylbenzene;
- 1,3,5-trimethylbenzene;
- sec-butylbenzene;
- n-butylbenzene;
- tert-butylbenzene;
- p-isopropyltoluene;
- acenaphthylene;
- benzo(g,h,i)perylene; and
- phenanthrene.

These compounds typically are associated with TPH, and are addressed in the consideration of GRO, DRO, and ORO as COCs for the cleanup action. The compounds with no published MTCA cleanup levels that were detected exceeding the laboratory PQL by the RI are not listed as COCs for the cleanup action, since their presence will correlate with the selected COCs.

4.3 MEDIA OF CONCERN

Soil, groundwater, and surface water are the media of concern for the cleanup action. The results of the RI indicated that concentrations of some of the COCs above the screening levels were detected in water at the point of groundwater exchange where shallow groundwater discharges to the surface soil at seep sample location SG-1. The elevation of seep SG-1 soil is the same as other Site surface soils, therefore the seep soils are herein considered to be soils, rather than sediments. The cleanup action objectives for groundwater will mitigate the risks to human health and the environment posed through direct contact with surface water at the point of discharge at seep sample location SG-1.

4.4 CLEANUP STANDARDS

As defined in WAC 173-340-700, cleanup standards for the Site include establishing cleanup levels and the points of compliance at which those cleanup levels will be attained. The cleanup standards for the Site have been established in accordance with WAC 173-340-700 through 173-340-760, are protective of human health and the environment, and comply with the applicable or relevant and appropriate requirements (ARARs) defined for the Site in the Final FS Report.

4.4.1 Cleanup Levels

Cleanup levels are the concentrations of the COCs that will be met for the media of concern at the points of compliance defined for the Site to meet the requirements of MTCA. The soil, groundwater, and surface water cleanup levels for the COCs are presented in the following subsections.

4.4.1.1 Soil

The cleanup levels for soil are the MTCA Method A Soil Cleanup Levels for Unrestricted Land Uses, as defined in Table 740-1 of WAC 173-340-900. The MTCA Method A cleanup level for each COC is identified below:

- GRO = 30 mg/kg;
- DRO = 2,000 mg/kg;
- ORO = 2,000 mg/kg;
- Benzene = 0.03 mg/kg;
- Toluene = 7 mg/kg;
- Ethylbenzene = 6 mg/kg;
- Xylenes = 9 mg/kg;
- cPAHs = 0.1 mg/kg; and
- Naphthalenes = 5 mg/kg.

The total for cPAHs is calculated by multiplying the concentration of each cPAH compound by the toxicity equivalency factor, and summing them for a total cPAH concentration for comparison to the MTCA Method A cleanup levels for benzo(a)pyrene.

4.4.1.2 Groundwater

The cleanup levels for groundwater are the MTCA Method A Cleanup Levels for Ground Water, as defined in Table 720-1 of WAC 173-340-900. The MTCA Method A cleanup level for each COC is identified below:

- GRO = 800 micrograms per liter ($\mu\text{g/l}$);
- DRO = 500 $\mu\text{g/l}$;
- ORO = 500 $\mu\text{g/l}$;
- Benzene = 5 $\mu\text{g/l}$;
- Toluene = 1,000 $\mu\text{g/l}$;
- Ethylbenzene = 700 $\mu\text{g/l}$; and
- Xylenes = 1,000 $\mu\text{g/l}$.

4.4.1.3 Surface Water

MTCA 173-340-730(3)(iii)[C] allows for the use of MTCA Method A groundwater cleanup levels as an alternative to calculating a total petroleum hydrocarbon cleanup level for surface water. The MTCA Method A cleanup levels for groundwater will be used as the surface water cleanup levels for the COCs at the Site.

4.4.2 Points of Compliance

The points of compliance are defined in WAC 173-340-200 as the locations where the cleanup levels established in accordance with WAC 173-340-720 through 173-340-760 will be attained to meet the requirements of MTCA. If the cleanup levels for groundwater cannot be met within a reasonable restoration time frame, conditional points of compliance can be defined in accordance with WAC 173-340-720(8)(c), and an institutional control that precludes the use of groundwater in the shallow water-bearing zone as a potable water source would be implemented at the Site. Once the cleanup levels have been maintained at the defined points of compliance, the Site is no longer considered to be a threat to human health or the environment. The points of compliance for the cleanup action for soil and groundwater are provided in the following subsections.

4.4.2.1 Soil

The point of compliance for soil is defined WAC 173-340-740(6)(b) as being throughout the Site. In the proposed remedial action, the point of compliance for soil will be the depth and areal extent of the excavation required to remove all Site soil with concentrations of COCs exceeding the MTCA Method A cleanup levels. Such excavation can only occur to the extent that it is within the limits of practicability. If it is impracticable to remove all Site soils exceeding Site cleanup levels, then institutional controls, in addition to the proposed groundwater cleanup will be used to mitigate the effects of the residual contamination.

4.4.2.2 Groundwater

The point of compliance for groundwater is groundwater within the shallow water-bearing zone throughout the Site.

4.4.2.3 Surface Water

The point of compliance for surface water is where groundwater discharges to surface soil at seep sample location SG-1, and any other known or observed seep areas.

4.5 TERRESTRIAL ECOLOGICAL EVALUATION

WAC 173-340-7490 requires consideration of a terrestrial ecological evaluation when soil has been impacted by the release of a hazardous substance. The goal of the terrestrial ecological evaluation process is to protect terrestrial ecological receptors from exposure to contaminated soil with the potential to cause significant adverse effects (WAC 173-340-7490[3]). The results of the terrestrial ecological evaluation must be considered when developing and evaluating cleanup action alternatives and selecting a cleanup action. The proposed cleanup action alternative will remove soil with concentrations of COCs above the MTCA Method A cleanup level, and place clean soil in the biologically active zone. This will be protective of terrestrial ecological receptors. The risks to terrestrial ecological receptors will be eliminated by the cleanup action.

5.0 EVALUATION AND SELECTION OF CLEANUP ACTION ALTERNATIVES

As documented in the Final FS Report, the technically feasible cleanup action alternatives that were considered in the screening of alternatives for soil and groundwater at the Site included:

- Institutional controls and monitoring;
- In-situ treatment;
- Ex-situ treatment;
- Source removal and off-Site disposal; and
- Enhanced aerobic bioremediation.

The cleanup action alternative appropriate for each medium of concern was screened against the MTCA threshold criteria for selection of cleanup actions (WAC 173-340-360), which include protection of human health and the environment, compliance with cleanup standards, compliance with applicable state and federal laws, and provision for compliance monitoring. The evaluation of cleanup action alternatives also considered the future development plans for the Site and the potential adverse impact on the adjacent marine environment.

5.1 INSTITUTIONAL CONTROLS AND MONITORING

The sole use of institutional controls and monitoring as a cleanup action alternative for soil at the Site will not protect human health or the environment, comply with cleanup standards or applicable state and federal laws, and will restrict future development of the property. Institutional controls and monitoring, by themselves, are not a feasible cleanup action alternative.

5.2 IN-SITU TREATMENT

The effectiveness of in-situ treatment of soil and groundwater is limited by the subsurface conditions at the Site and the types of COCs requiring treatment. In-situ physical treatments have not been shown in the Feasibility Study to comply with the cleanup standards or applicable state and federal laws within a reasonable time frame. Use of in-situ chemical treatment for groundwater is not feasible as a sole remedial alternative because of the potential impact to the surface water and tidelands located adjacent to the Site. In-situ treatment cleanup action alternatives, without additional measures, are not feasible as Site remedies.

5.3 EX-SITU TREATMENT

The effectiveness of ex-situ treatment of groundwater is limited by the subsurface conditions at the Site and the types of COCs requiring treatment. Ex-situ treatments have not been shown in the Feasibility Study to comply with the cleanup standards or applicable state and federal laws within a reasonable time frame. Ex-situ treatment of groundwater is not a feasible cleanup action alternative for the Site.

5.4 SOURCE REMOVAL AND OFF-SITE DISPOSAL

The proposed cleanup action alternative for soil at the Site includes source removal by excavation and off-Site disposal for soil with concentrations of one or more of the COCs above MTCA cleanup levels. The proposed cleanup action alternative will protect human health and the environment and comply with cleanup standards and applicable state and federal laws within a reasonable time frame. The proposed cleanup action alternative will remove soil within practicable excavation limits with concentrations of COCs that present a risk to human health and the environment. The removal of soil containing COCs will eliminate the source of concentrations of COCs to groundwater. The proposed cleanup action alternative also will provide a permanent solution to the maximum extent practicable, will provide for future development of the property, and is technically appropriate and implementable given the nature and extent of the contamination, the physical Site soil and groundwater conditions, and the adjacent sensitive marine tideland environment.

5.5 ENHANCED AEROBIC BIOREMEDIATION

The cleanup action alternative proposed for groundwater consists of enhanced aerobic bioremediation following the source removal activities. Enhanced aerobic bioremediation consists of application of a substance to add oxygen to the soil and/or groundwater to increase the number and vitality of indigenous microorganisms performing biodegradation. Enhanced aerobic bioremediation coupled with the removal of the source of the contamination (soil) will provide an effective cleanup action alternative for groundwater. The proposed cleanup action alternative is designed to protect human health and the environment, comply with cleanup standards, and comply with applicable laws by resulting in permanent elimination of COCs in groundwater.

6.0 PROPOSED CLEANUP ACTION

This section presents a description of the proposed cleanup action and a discussion of cleanup action monitoring. The proposed cleanup action meets the threshold criteria of MTCA (WAC 173-340-360) as presented in Section 5, Evaluation and Selection of Cleanup Action Alternatives.

6.1 CLEANUP ACTION DESCRIPTION

The cleanup action will consist of the following activities:

- Removal of all aboveground and underground structures and remnant equipment at the Site, as necessary to provide access to soil with concentrations of one or more of the COCs exceeding the applicable MTCA cleanup level;
- Implementation of erosion control and Site security measures;
- Excavation of soil from the cleanup action target areas and transport for disposal at an appropriate off-Site disposal facility;
- Management of groundwater during the excavation activities;
- Collection of soil samples for laboratory analysis; and
- Backfilling the excavation with a mixture of soil and Regensis ORC Advanced or equivalent compound to enhance aerobic bioremediation.

Point of compliance groundwater monitoring wells will be installed after removal of the contaminated soil. Site groundwater monitoring wells will be monitored to confirm that the cleanup levels for groundwater have been met at the point of compliance monitoring wells. The cleanup action will be documented following completion of the source removal activities, periodically during groundwater compliance monitoring, and once the groundwater cleanup levels have been met at the points of compliance.

6.2 CLEANUP ACTION COMPONENTS

The following subsections provide a summary of the proposed cleanup action alternative. A more detailed description of the construction specifications will be provided in the Engineering Design Report (see Section 7.1).

6.2.1 Excavation and Source Removal

Soil with concentrations of one or more of the COCs above the MTCA Method A cleanup levels will be excavated from the Site within practicable excavation limits, and transported off the Site for disposal. It is estimated that the total volume of soil to be excavated will range from 3,000 to 6,000 tons, of which a total of approximately 1,500 to 3,750 tons of soil will require disposal as petroleum-contaminated soil at an appropriate treatment and disposal facility. Clean overburden will be stockpiled on the Site and used for backfill, where suitable. In addition to the

petroleum-contaminated soil, an estimated total of 1,200 tons of debris suspected to be present behind the bulkhead will be excavated and transported off the Site for disposal.

6.2.2 Enhanced Aerobic Bioremediation

Groundwater with concentrations of one or more of the COCs above the MTCA Method A cleanup levels will be treated through enhanced aerobic bioremediation following the excavation and source removal of soil. Enhanced aerobic bioremediation will be facilitated using an oxygen-release compound such as Regenesis ORC Advanced to aerobically degrade petroleum-based hydrocarbon contamination in the subsurface. An estimated 1,150 pounds of ORC Advanced will be mixed with the excavation backfill material within the shallow water-bearing zone.

The performance monitoring program to confirm that source removal and enhanced aerobic bioremediation have resulted in the elimination of COCs in groundwater will consist of the following:

- Monitoring groundwater quality at the point of compliance monitoring wells and surface water discharge to assess the combined effects of the source removal and enhanced aerobic bioremediation processes in reducing concentrations of COCs in groundwater; and
- Verifying that the cleanup levels in groundwater have been met at the points of compliance for the Site.

6.3 MONITORING

Monitoring of the cleanup action will be performed in accordance with the requirements of WAC 173-340-410, and will include protection, performance, and confirmation monitoring. Specific requirements for monitoring the cleanup action will be provided in the Compliance Monitoring Plan (see Section 7.3). The monitoring requirements for the cleanup action are presented in the following subsections.

6.3.1 Protection Monitoring

Protection monitoring, which will include monitoring soil, ambient air, and surface water quality, will be conducted during the cleanup action to confirm that human health and the environment are protected. The frequency, scope, and duration of the monitoring and sampling will be detailed in the Compliance Monitoring Plan (see Section 7.3).

6.3.2 Performance Monitoring

Soil monitoring and sampling will be conducted to evaluate the performance of the cleanup action during the excavation. Performance groundwater and surface water monitoring and sampling will be conducted to provide baseline data for the progress of the groundwater cleanup via enhanced aerobic bioremediation. The frequency, scope, and duration of the monitoring and sampling will be detailed in the Compliance Monitoring Plan (See Section 7.3). The performance monitoring results will be used to assess when the cleanup objectives have been met, and when confirmation monitoring of the affected media can begin.

6.3.3 Confirmation Monitoring

Following completion of the excavation activities, confirmation soil, groundwater, and surface water monitoring and sampling will be performed to evaluate the effectiveness of the cleanup action. The frequency, scope, and duration of the monitoring and sampling will be detailed in the Compliance Monitoring Plan (see Section 7.3). The confirmation monitoring and sampling results will be used to assess when the cleanup levels have been met at the defined points of compliance.

7.0 ADDITIONAL REQUIREMENTS

This section discusses the documentation to be provided for the cleanup action, including an Engineering Design Report, construction plans and specifications, and a Compliance Monitoring Plan.

7.1 ENGINEERING DESIGN REPORT

An Engineering Design Report will include sufficient information for the development and review of construction plans and specifications to document engineering concepts and design criteria used for the design of the cleanup action. The information required under WAC 173-340-400(4)(a)(i) through 173-340-400(4)(a)(xx) will be included in the Engineering Design Report.

7.2 CONSTRUCTION PLANS AND SPECIFICATIONS

The Construction Plans and Specifications will detail the cleanup action to be performed. As required by WAC 173-340-400(4)(b), the documents will include the following information, as applicable:

- A description of the work to be performed, and a summary of the engineering design criteria from the Engineering Design Report;
- A site location map and a map of existing conditions;
- A copy of applicable permit applications and approvals;
- Detailed plans, procedures, and specifications necessary for the cleanup action;
- Specific quality control tests to be performed to document the construction, including specifications for testing or reference to specific testing methods, frequency of testing, acceptable results, and other documentation methods; and
- Provisions to ensure that the health and safety requirements of WAC 173-340-810 are met.

All aspects of construction will be performed and documented in accordance with WAC 173-340-400(6). These aspects include approval of all of the plans listed above prior to commencement of work, oversight of construction by a Professional Engineer licensed in the state of Washington, and submittal of a Construction Completion Report that documents all aspects of the cleanup and includes an opinion of the engineer as to whether the cleanup was conducted in substantial compliance with the DCAP, the Engineering Design Report, and the construction plans and specifications.

7.3 COMPLIANCE MONITORING PLAN

The Compliance Monitoring Plan, prepared in accordance with WAC 173-340-410, will describe the monitoring to be performed during the cleanup action, and will include a Sampling and Analysis Plan prepared in accordance with WAC 173-340-820 that will specify the procedures to be followed to ensure that sample collection, handling, and analysis will result in data of sufficient quality to plan and evaluate the cleanup action at the Site. The Compliance Monitoring Plan will include the purpose and objective of data collection, the rationale for the sampling approach, and the responsibilities for the sampling and analysis activities. The Compliance Monitoring Plan will describe specifications for sample identifiers; the type, number, and location of the samples to be collected; the analyses to be performed; the documentation of samples; the sample containers, collection, and handling; and the sampling schedule.

7.4 RESTRICTIVE COVENANT

A Restricted Covenant, as approved by Ecology, is to be filed with Mason County until Site owners have received written confirmation from Ecology that Site cleanup goals have been permanently attained.

7.5 PERMITS/REQUIREMENTS

The Cleanup Action at the Evergreen Fuel Facility will be conducted under an Agreed Order (Pending) with the Washington State Department of Ecology (Ecology); therefore, the Cleanup Action is exempt from the procedural requirements of certain laws and all local permits (WAC 173-340-710(9)(a)) but must comply with the substantive requirements of these laws and permits. The exemption from procedural requirements applies to the:

- Washington Clean Air Act (RCW 70.94);
- Solid Waste Management Act (RCW 70.95);
- Hazardous Waste Management Act (RCW 70.105);
- Construction Projects in State Waters (RCW 75.20);
- Water Pollution Control Act (RCW 90.48); the Shoreline Management Act (RCW 90.58); and
- Any laws requiring or authorizing local government permits or approvals.

The exemption is not applicable if Ecology determines that the exemption would result in the loss of approval from a federal agency that may be necessary for the state to administer any federal law.

The applicable and non-applicable permit requirements are provided in the following sections.

7.5.1 APPLICABLE PERMIT REQUIREMENTS

The Cleanup Action will meet the substantive requirements of the following permits:

- State Environmental Policy Act, Ecology;
- Grading Permit, City of Shelton;
- Right-of -Way Permit, City of Shelton; and
- Shoreline Substantial Development Permit, City of Shelton.

The documents required for each of these permits will be included as an Appendix to the Engineering Design Report (Pending), which will be submitted to Ecology for review and approval, as a requirement of the Agreed Order. A description of each applicable permit and the substantive requirements is provided below.

State Environmental Policy Act, Ecology. The Washington State Environmental Policy Act (SEPA) provides a way to identify possible environmental impacts that may result from governmental decisions. These decisions may be related to issuing permits for private projects, constructing public facilities, or adopting regulations, policies or plans. Information provided during the SEPA review process helps agency decision-makers, applicants, and the public understand how a proposal will affect the environment. Any proposal that requires a state or local agency decision to license, fund, or undertake a project, or the proposed adoption of a policy, plan, or program can trigger environmental review under SEPA. (See WAC 197-11-704 for a complete definition of agency action).

SEPA review is applicable to the Cleanup Action as part of the local requirements for grading and development activities adjacent to the shoreline. The SEPA review consists of completion of a SEPA checklist, which will be submitted to Ecology as part of the Engineering Design Report. Ecology is the lead agency for the cleanup action and may allow the cleanup action to commence prior to the end of the public comment period. The public comment period for the SEPA review will be conducted concurrently with the public comment period for the Agreed Order.

Grading Permit, City of Shelton. The Grading Permit is required for any subsurface excavation and/or fill work. A Grading Permit is applicable to the Cleanup Action based on the excavation for the removal of contaminated soil and backfill. The Grading Permit requires a completed Fill & Grade Permit/Erosion Control Application. The Fill & Grade Permit/Erosion Control Application will be completed and submitted to Ecology as part of the Engineering Design Report.

Right-of-Way Permit, City of Shelton. The Right-of-Way Permit is required for any work in the City of Shelton right-of-way. A Right-of-Way permit is applicable to the Cleanup Action based on the excavation of contaminated soil in the Pine Street right-of-way. The Right-of-Way Permit requires a completed Right-of-Way Permit Application form, plot plan, and project specifications, which will be submitted to Ecology as part of the Engineering Design Report.

Shoreline Substantial Development Permit, City of Shelton. The Shoreline Substantial Development Permit is a written permit issued by local government for development located within 200 feet of the shoreline and is required for all non-exempt developments and uses exceeding a fair market value of \$5,000 (\$2,500 for private residential docks in salt water; \$10,000 in fresh water) as defined in RCW 90.58.030(3) and WAC 173-27-030(8). After completion of the local process, the permits are sent to Ecology for filing; however, Ecology does not have authority to approve or deny the permit.

This permit is applicable to the Cleanup Action based on the excavation and backfilling to be conducted within 200 feet of the shoreline. The Shoreline Substantial Development Permit requires a completed Shoreline Permit Application form, a SEPA checklist, a Joint Aquatic Resource Permits Application form, a Site plan map and a topographic map. All required documents will be completed and submitted to Ecology as part of the Engineering Design Report.

7.5.2 NON-APPLICABLE PERMITS

Federal and state permits that are not applicable to the Cleanup Action are summarized below.

Discharge of Dredge or Fill Material into Water (Section 404 Permit), U.S. Army Corps of Engineers. This permit is required if a project will result in a planned discharge of dredged or fill material into the waters of the United States.

This permit is not applicable to the Cleanup Action because dredged or fill material will not be placed into the waters of the United States.

401 Water Quality Certification, Ecology Shoreline and Environmental Assistance. This permit is required to conduct any activity that might result in a discharge of dredge or fill material into water or non-isolated wetlands or excavation in water or non-isolated wetlands. Applicants receiving a Section 404 permit from the U.S. Army Corp of Engineers, a Coast Guard permit, or license from the Federal Energy Regulatory Commission (FERC) are required to obtain a Section 401 Water Quality Certification (401 Certification) from Ecology. Issuance of a 401 Certification means that Ecology anticipates that the applicant's project will comply with state water quality standards and other aquatic resource protection requirements under Ecology's authority. The 401 Certification can cover both the construction and operation of the proposed project. Conditions of the 401 Certification become conditions of the Federal permit or license.

This permit is not applicable to the Cleanup Action because dredge or fill material will not be discharged into water or a non-isolated wetland, excavation in water will not be conducted, and there are no applicable federal permits for which this permit would be required.

Hydraulic Project Approval, from the Washington State Department of Fish and Wildlife. Activities that require a Hydraulic Project Approval (HPA) include any work that uses, diverts, obstructs, or changes the natural flow or bed of any of the salt or fresh waters of the state.

An HPA is not applicable to the Cleanup Action because there will be no use, diversion, obstruction, or changes to the salt waters of the state adjacent to the Site.

NPDES Construction Stormwater General Permit, Ecology Water Quality. An NPDES permit is required for all soil-disturbing activities, including grading, stump removal, and demolition, where one or more acres will be disturbed, and where stormwater will be discharged directly to a receiving water such as wetlands, creeks, unnamed creeks, rivers, marine waters, ditches, or estuaries, or to storm drains that discharge to a receiving water. Construction site operators must apply for a permit 60 days prior to discharging stormwater.

This permit is not applicable to the Cleanup Action because the soil-disturbing activities planned for the Cleanup Action are less than one acre in size.

8.0 REFERENCES

- Farallon Consulting, L.L.C. (Farallon). 2004. *Final Remedial Investigation Work Plan, Evergreen Fuel Facility, 661 East Pine Street, Shelton, Washington*. September 20.
- . 2005. *Final Remedial Investigation Report, Evergreen Fuel Facility, 661 East Pine Street, Shelton, Washington*. Prepared for C.C. Cole and Sons, Inc. and Chevron Products Co. December 2.
- . 2006. *Final Feasibility Study Report, Evergreen Fuel Facility, 661 East Pine Street, Shelton, Washington*. July 10.
- Langseth Environmental Services, Inc. 1998. *Phase II Site Investigation Report, Evergreen Fuel Facility*. February 24.
- Port of Shelton. “Brief Historical Background of the Port.” No date. <http://www.portofshelton.com/about_the_port.html>. (May 23, 2005.)

FIGURES

DRAFT CLEANUP ACTION PLAN
Evergreen Fuel Facility
661 East Pine Street
Shelton, Washington