

Region 10 Routing and Concurrence

| | | | |
|---------------------|--------------------------------|-------------------------------|----------|
| Author: | Jeffrey Fowlow | Date submitted for signature: | 10/18/18 |
| Addressee: | Sheryl Bilbbrey, Director, ECL | | |
| Subject: | May Creek Action Memo | | |
| File Location/Name: | | | |

PROGRAM ADMIN REVIEW:

| | | |
|----------------|--------------------|--|
| Name: | Sharon Smith | |
| Initials/Date: | <i>SS 10/18/18</i> | |

PROGRAM OFFICE CONCURRENCE:

| | | | | | | |
|----------------|----------------|----------------------|----------------------|-----------------|--|--|
| Name: | LEEFERS | W. MOON | INGEMANSEN | TERADA | | |
| Initials/Date: | <i>10/9/18</i> | <i>W.M. 10-16-18</i> | <i>W.I. 10-17-18</i> | <i>10/12/18</i> | | |

RA OFFICE CONCURRENCE/SIGNATURE:

| | | | | | | |
|----------------|--------------------------|--|--|----------------------------------|--------------------------|-----------------------|
| Name: | Linda Eriksen | | Marianne Holsman (if press related) | Jim Woods (if tribal related) | Michelle Pirzadeh DRA | Dennis McLerran RA |
| Initials/Date: | | | | | | |

cc(s) (include name, title, organization, mailing address, and email if PDF is required—attach a list if necessary)

| | | |
|--|--|--|
| | | |
| | | |

bcc(s) (include name, title, organization, mailing address, and email if PDF is required—attach a list if necessary)

| | | |
|--|--|--|
| | | |
|--|--|--|

| | | | |
|-------------------|--|-----------------|--------------------------|
| Mailing Deadline: | | Certified Mail: | <input type="checkbox"/> |
| FAX to: | | FAX #: | |

ADDITIONAL INFO/INSTRUCTIONS: *Zama, Johnson, Johnson, Dyer, K...*
 RETURN TO SHARON SMITH FOR FINAL PROCESSING.

| | | | |
|----------------------|--|---------|--|
| Filing Instructions: | | | |
| Program | | Chrono. | |
| | | Other | |

May Creek Landfill Action Memorandum Check Sheet¹

Original to: Records Center (Admin Record)

| Coordination with or obtained: | Y/N | Contact Info or Comment: |
|--|----------------|---|
| Acct No. obtained | Y | 10RB |
| CERCLIS No. obtained | Y | WAN00101126 |
| ATSDR coordination | N | |
| Community Involvement/Press coordination | | Adam Baron |
| Contracts (ERRS, START) | Y | |
| Dept of Agriculture (Forest Service lands) | NA | |
| Dept of Commerce/National Marine Fisheries (ESA) issues considered | N | |
| Dept of Interior (ESA) issues considered | Y | Allison O'Brien <i>Also check Trustees</i> |
| IGCE completed, if required | Y | |
| NPL coordination | Y | Monica Tonel |
| ORC coordination/concurrence | Y | Kris Leefers |
| PRP search initiated | N | Property owner identified |
| CID coordination | N | SAIC Proctor |
| Admin Record established | Y | |
| State coordination | Y | Tom Buroker, Ecology |
| SHPO coordination | N Y | <i>Need to coordinate with NA SHPT</i> |
| Operations/Hanford Office coordination | Y | Wally Moon |
| Tribal Office coordination | NA | |
| Tribal (cultural and natural resources) issues considered | NA | |

Copies to: Edward Johnson (CERCLIS reporting)
 Mike Sibley (ERRS)
 Mary Matthews (ER Program file)

¹ This check sheet is **required** for all Action Memos and is to be used as a guide for OSCs and RPMs to ensure proper communication and coordination with various stakeholders. With the exception of ORC, formal concurrence is not required but items should be considered prior to routing an Action Memo for signature. Check sheet should be included with formal signature package.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 155
Seattle, WA 98101-3140

OFFICE OF
ENVIRONMENTAL
CLEANUP

OCT 19 2018

MEMORANDUM

SUBJECT: Action Memorandum for a Removal Action, May Creek Landfill, Renton, King County, Washington

FROM: Jeffrey Fowlow, On-Scene Coordinator
Spill Prevention and Removal Unit
Emergency Management Program

THRU: Wally Moon, Unit Manager *WJM*
Spill Prevention and Removal Unit
Emergency Management Program

TO: Sheryl Bilbrey, Director
Office of Environmental Cleanup

I. Purpose

The purpose of this Action Memorandum is to request and document approval of a time-critical removal action described herein for the May Creek Landfill Site in Renton, King County, Washington (Site). The proposed removal action is expected to be a U.S. Environmental Protection Agency (EPA) lead action in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §§ 9601, *et seq.* (CERCLA).

The scope of this removal action addresses the uncontrolled release and the threat of an uncontrolled release of hazardous substances to the environment, to include a site assessment, categorization and removal of containers of hazardous substances and a limited removal of contaminated soil in a known dump area.

II. Site Information

A. Site Description

| | |
|--------------------------------------|---|
| Site Name: | May Creek Landfill |
| Superfund Site ID (SSID): | 10RB |
| NRC Case Number: | None |
| CERCLIS Number: | WAN00101126 |
| Site Location: | 15753 Renton-Issaquah Road SE, Renton, Washington |
| Latitude: | 47.501782 north |
| Longitude: | -122.131476 west |
| Potentially Responsible Party (PRP): | See Confidential Enforcement Addendum |
| Access: | See Confidential Enforcement Addendum |

NPL Status: Not proposed as an NPL site
Removal Start Date: November 2018

1. Removal site evaluation

2016 EPA Removal Site Evaluation (RSE)

On February 25, 2016, EPA and EPA's Superfund Technical Assessment and Response Team (START) contractor participated in a sampling event at the scene of an unpermitted solid waste landfill located in a residential area of King County, Washington. The entry was conducted under a search warrant obtained by the Washington State Attorney General's office. Participants included representatives of the Washington State Attorney General, the Washington State Patrol, Washington State Department of Ecology, EPA, and EPA's START contractor. EPA's role was to: 1) identify areas of potentially contaminated soil and collect and analyze soil samples; and 2) identify, document, sample, and analyze samples from containers (e.g., tanks, drums, buckets, etc.) containing hazardous substances that are stored at the Site.

The ground surface was covered with many thousands of tons of solid waste including junked vehicles and boats, construction debris, household waste, industrial solid waste, and hundreds, perhaps thousands, of containers (e.g., tanks, drums, buckets, etc.) of potentially hazardous substances. There was an occupied residence at the Site and work areas. There was no apparent organization to the manner in which waste was stored at the Site. The solid waste appeared to cover virtually all of the ground surface available and at unknown depths, possibly up to 20 feet deep.

START collected a total of 13 surface soil samples at the few locations soil was exposed. The samples were submitted for laboratory analysis and the analytical results indicated concentrations of chemicals exceeding the cleanup levels for the Washington State Model Toxics Control Act, Method A for Unrestricted Use for the following chemicals: cadmium, chromium, benzo(a)pyrene, total toxicity equivalent concentration (TTEC), and motor oil range organics.

START conducted a brief inventory of chemical containers to attempt to collect a series of representative samples of the contents of the containers. The containers were unlabeled or inaccurately labeled, inappropriately stacked upon one another, and showed evidence of leaking. START collected a total of nine container samples and conducted field and laboratory testing to determine whether the contents presented Resource Conservation and Recovery Act (RCRA) hazardous waste characteristics. The results of the testing indicated the presence of toxic, ignitable, and corrosive materials in the containers. Extrapolating the results of the inventory and field testing, EPA concluded there were likely dozens, or perhaps hundreds, of chemical containers at the Site that contain substances that exhibit RCRA hazardous waste characteristics. (*See Ecology and Environment, Inc., 2016.*)

2018 RSE Update

On July 26, 2018, EPA, START, EPA's Emergency and Rapid Response Services (ERRS) contractor, Washington State Department of Ecology, and King County Solid Waste Division

personnel conducted a site walk at the property to update situational awareness of the condition of the property and to establish the scope of work described in this Action Memo.

EPA/START observed approximately 250 visible containers at the Site. The containers were primarily 1- and 5-gallon capacity. There were approximately fifteen to twenty 55-gallon drums. Most of the containers did not have labels. There was no recognizable system of storing most containers safely, in a manner suggesting regular use, or with care to prevent release. The property owner reported that he emptied various containers from the bus/bus area of the Site onto wood chips (used for absorption) spread directly onto surface soil. The property owner reported to have emptied containers with latex paint only, but it is unknown whether any of the emptied containers also included mixed waste. The volume of fuel in junked/abandoned vehicles was not assessed nor the contents within at least two tanker vehicles abandoned at the Site. Evidence of container releases were observed, including actively leaking containers and stained soil. Suspect ACM was observed throughout the Site. Many parts of the Site were not safely accessible (e.g., inside overly packed buses and recreational vehicles). It is possible that containers are buried and intermixed with solid waste in the 4- to 5-acre landfill area based on how containers were managed on the surface.

2. Physical location:

The Site is located in semi-rural eastern King County, Washington and encompasses approximately 10-acres surrounded by residential and agricultural land use. The Site is located at latitude 47.501782 north and longitude -122.131476 west at approximately 370-490 feet above mean sea level.¹ The property is hilly, with approximately 120 feet of relief and has very limited entry and egress on hilly, unpaved dirt roads that are further encumbered by solid waste and inoperable vehicles blocking access. Temperatures range from an average high of 78 degrees Fahrenheit (F) to an average low of 37 degrees F and prevailing wind direction is from the south in the winter at an average speed of 4.1 miles per hour (mph) and from the north in the summer at an average wind speed of 2.1 mph.² Renton, Washington receives 40 inches of annual precipitation, with 29.69 inches (75 percent) occurring between October and March.³ Drainage ditches from within and on the periphery of the property drain approximately 1,000 feet to May Creek, which flows to the Cedar River, which is part of the Cedar River/Lake Washington Watershed.

The property owner lives in the on-site residence with at least one other family member. There are an unknown number of people living in the vehicles or encampments at the Site. The population density of Renton, Washington is 4,329.47 people per square mile with an average of 2.54 persons per household.⁴ Based on aerial photographs, there are several dozen residences located within a one-mile radius of the Site.⁵

¹ Site Hazard Assessment Worksheet 1 Summary Score Sheet Pillon Property.

² <https://www.weatherspark.com/y/906/Average-Weather-In-Renton-Washington-United-States-Year-Round>.

³ <https://www.usclimatedata.com/climate/renton/washington/unitedstates/uswa0824>.

⁴ <http://worldpopulationreview.com/us-cities/renton-washington-population/>.

⁵ Site Hazard Assessment Worksheet 1 Summary Score Sheet Pillon Property.

3. Site characteristics

The Site was reportedly operated as an illegal solid waste landfill. The property owner also has claimed to be operating a composting, material recovery, waste reduction and recycling business at the Site. Additionally, EPA also received reports that metal scrapping activities were common at the Site. The property owner has been accepting waste at the Site since the early 1990s, but has no permit to do so. A King County memorandum dated February 8, 2016 describes wastes collected, stored, and piled at the Site as including, but not limited to, “abandoned vehicles and vehicle parts; appliances and appliance parts; construction and demolition wastes such as wood, drywall, insulation, concrete, metal supports, roofing materials, carpet; discarded plastic, metal, and glass containers that contained food, chemicals, paint, and other liquid materials; bulk paints in containers; numerous discarded hot tubs; household wastes such as mattresses, furniture, CDs and DVDs, toys; yard waste, sod, and soil waste, and various other materials made of wood, plastic, and metals” (*see* Seattle and King County, 2016).

4. Release or threatened release into the environment of a hazardous substance or pollutant or contaminant

Hazardous wastes as defined by RCRA are present at the Site in an unknown number of containers. During the 2016 RSE, a total of nine representative container samples were collected at the Site. Seven of the samples were submitted for analysis at an off-site fixed laboratory. (*See* Ecology and Environment, Inc., 2016.)

All nine samples were subjected to hazard categorization analyses. Hazard categorization results from the 2016 RSE are provided in Table 1. The information from the hazard categorization process was used to determine which, if any, off-site fixed laboratory analyses would be applied to the samples. Results of hazard categorization screening indicated the presence of flammable and combustible liquids in seven containers, corrosive liquid in one container, and a miscellaneous hazardous substance in one container. Based on these results, EPA determined that seven of these samples would be subjected to additional laboratory analysis.

Six samples were submitted for hydrocarbon identification (HCID) analysis and results are provided in Table 2.⁶ Four of the samples submitted contained the presence of petroleum products such as motor oil, lube oil, and #2 diesel. Two of the samples indicated no presence of petroleum hydrocarbons.

Seven samples were submitted for fixed laboratory analysis of flashpoint, pH, and/or metals. Product/waste analytical results are provided in Table 3. Two of the samples are considered ignitable based on the required characteristic of ignitability (i.e., a flashpoint less than 65° Celsius). Neither of these samples indicated the presence of petroleum hydrocarbons during the HCID analysis. One sample measured a pH of 12.3, which is just below the characteristics of corrosivity (i.e., pH less than or equal to 2 or greater than or equal to 12.5). Based on the high

⁶ Two of these samples were multi-phase liquids (organic phase and aqueous phase), therefore Table 2 presents the results of eight HICD analyses.

pH, this sample was also analyzed for Toxicity Characteristic Leachate Procedure (TCLP) metals. Sample results indicated lead was detected at a concentration that exceeds the TCLP screening criteria which indicates the waste achieves the RCRA characteristic for toxicity. This sample was not submitted for HCID analysis.

The contaminants of concern for this action include chromium, cadmium, benzo(a)pyrene, all of which are hazardous substances as defined by Section 101(14) of CERCLA 42 U.S.C. § 9601(14).

During the 2016 RSE, a total of 13 soil samples were collected: 12 in Site operational areas; and one background sample collected on Site property but away from Site operations to the extent possible (Figure 2). Soil sample analytical results are presented in Table 4. Exceedances of EPA Removal Screening Levels (RSLs), Removal Management Levels (RMLs), and/or Washington State Model Toxics Control Act (MTCA) Method A Cleanup Level were detected in all 13 soil samples. The information provided below only provides result comparisons with the MTCA Method A Cleanup Levels; however, Table 4 provides analytical data for the soil samples and compares those data to MTCA Method A and EPA RSLs and RMLs.

Of the 13 surface soil samples submitted, chromium was detected above MTCA Method A cleanup standards in 10 samples (including the background sample), cadmium was detected in two samples exceeding MTCA standards, and the semi-volatile organic compounds (SVOCs) benzo(a)pyrene and TTEC,⁷ were detected at concentrations exceeding MTCA standards in six samples each. Motor oil range organics also were detected at concentrations exceeding MTCA standards in 3 of the submitted samples.

5. NPL Status

The Site has not been proposed for the National Priorities List (NPL) nor is it expected to be referred to the EPA NPL site assessment program.

6. Maps, pictures, and other graphic representations

Figure 1 is a location map of the Site and Figure 2 is a location map for samples taken at the Site. Tables 1, 2, 3, and 4 present analytical results from the 2016 RSE. Table 1 presents the hazard categorization results from the waste/liquid samples. Table 2 presents the hydrocarbon identifications results. Table 3 presents the laboratory analytical results for the submitted waste/liquid samples. Table 4 presents the laboratory results for the surface soil sample analysis.

B. Other Actions to Date

1. Previous Actions

From 1993 to 2016, the Site has been investigated over 20 times by King County Department of Development and Environmental Services, King County Department of Natural Resources and Parks,

⁷ The Washington State Department of Ecology provides guidance for the evaluation of carcinogenic polycyclic aromatic hydrocarbons (c-PAHs). Guidance from Ecology was used to calculate TTEC for c-PAHs (Ecology n.d.).

King County Solid Waste, Seattle King County Department of Public Health, Puget Sound Clean Air Agency, Washington State Patrol, Washington State Department of Labor, Washington State Department of Ecology, and EPA. Activities such as scrapping metals, auto wrecking, incinerating waste, metal smelting, biodiesel production, and disposal of building materials including asbestos-containing material have been documented. The property owner has received numerous citations and notices of violation for conducting these unpermitted activities as well as many other hazardous waste management violations which has resulted in the assessment of thousands of dollars of civil penalties and recent felony and non-felony convictions of state law. These activities also have resulted in the documented contamination of soil and surface water from substances such as metals, volatile organic compounds, semi-volatile organic compounds, petroleum hydrocarbons. The Site presented numerous physical, biological, and fire threats. A summary of investigations and legal actions is available in the Administrative Record. To date, an effective cleanup has not occurred at the Site.

2. Current Actions

There are no ongoing government cleanup actions currently being undertaken. The property owner has reported to EPA that he has removed the buckets from the buses used as storage, determined that the contents were latex paint and dumped the contents onto the ground surface and mixed them with wood chips. During the July 2018 RSE update site walk, EPA observed that dozens of empty, crushed and broken 5- and 1-gallon containers were observed in an area near the bus where they were previously stored. The property owner reported to EPA that he culled out the flammable materials and retained them for later disposal.

C. State, Local and Tribal Authorities' Roles

1. State, local, and tribal actions to date

On July 18, 2018, EPA received a request for assistance from King County and the Washington Department of Ecology stating an “emergency removal action is necessary to mitigate an immediate threat to public health, welfare, and the environment posed by the presence of uncontrolled hazardous materials left on the property.”⁸

Potential for continued State and Local response

King County and the Washington Department of Ecology currently are negotiating a Memorandum of Understanding concerning continued investigation and cleanup actions following EPA’s removal action. Actions undertaken as described in this memorandum will greatly assist these parties in understanding the remaining scope of work to be conducted.

⁸ July 17, 2018, letter from Christie True, Director, King County Department of Natural Resources and Parks, and Tom Buroker, Regional Director, Washington Department of Ecology, letter to Sheryl Bilbrey, Director, Office of Environmental Cleanup, US EPA.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT

The current conditions at this Site meet the following factors which indicate that the Site is a threat to the public health or welfare or the environment and a removal action is appropriate under the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. § 300.415.

1. Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants [300.415(b)(2)(i)]

Flammable, corrosive, and toxic substances are stored in hundreds of containers at the Site. Additionally, during the 2016 RSE, a total of 13 soil samples were collected. Exceedances of EPA RSLs, RMLs, and/or Washington MTCA Method A Cleanup Levels were detected in all 13 soil samples. The contaminants of concern include metals and SVOCs, including lead, cadmium, benzo(a)pyrene, and TTEC.

The negative health effects of lead exposure are well documented, with long-term effects to children being of particular concern. Lead exposure can affect neurological, renal, hematological, endocrine, gastrointestinal, cardiovascular, reproductive, developmental, and other human biological systems.⁹ Childhood exposure to lead may lead to Attention-Deficit/Hyperactivity Disorder, delayed learning, and lower IQ and may manifest developmental problems, hypertension, and renal and reproductive problems as adults.

Cadmium exposure may lead to lung and kidney disease and skeletal problems. The U.S. Department of Health and Human Services (HHS) has determined that cadmium and cadmium compounds are known human carcinogens.¹⁰

Benzo(a)pyrene is a Polycyclic Aromatic Hydrocarbon (PAH) that can enter the human body through inhalation, ingestion of food or water, or by dermal contact with contaminated soil or products.¹¹ HHS has identified benzo(a)pyrene as a known animal carcinogen and the International Agency for Research on Cancer and EPA have classified benzo(a)pyrene as probably carcinogenic to humans. Increased incidences of lung, skin, bladder, and gastrointestinal cancers have been reported as a result of occupational exposure to PAHs.¹²

These contaminants may lead to human exposure by several pathways. For residents, visitors, workers, and trespassers to the Site, exposure pathways include inhalation of ambient air, contact with contaminated soil, and direct handling of the materials at the Site. The property owner also has acknowledged that he allows homeless persons to reside at the Site in inoperable recreational vehicles or other camp sites. The presence of flammable, corrosive, and toxic substances stored in very large quantities on a property with limited ingress/egress and on which inhabitants are living in vehicles and campsites presents a high risk of fire that would be extremely difficult to extinguish and would likely expose neighboring residents with potentially toxic smoke.

⁹ <https://www.atsdr.cdc.gov/csem/csem.asp?csem=34&po=10> Lead Toxicity: What are the Physiological Effects of Lead Exposure?

¹⁰ <https://www.atsdr.cdc.gov/phs/phs.asp?id=46&tid=15> ATSDR: Public Health Statement for Cadmium.

¹¹ <http://apps.sepa.org.uk/spria/Pages/Sw?substanceInformation.aspx?pid=22> Pollutant Fact Sheet: Benzo(a)pyrene.

¹² <https://www.atsdr.cdc.gov/csem/csem.asp?csem=13&po=11> ATSDR: Polycyclic Aromatic Hydrocarbons (PAHs) What Health Effects Are Associated With PAH Exposure?

2. Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release [300.415(b)(2)(iii)]

During EPA Site investigations, EPA observed hundreds of containers in highly deteriorated condition that were unlabeled and many of which were leaking. Representative samples were collected and field and laboratory analysis indicated the contents were flammable, corrosive, and/or toxic substances. The containers were stacked on top of one another without regard to compatibility, content, or condition, in the abandoned and inoperable buses and recreational vehicles and directly onto the ground surface. Containers in the vehicles were stacked floor to ceiling and wall to wall, making accessing the containers very difficult and hazardous. The containers range in capacity from a few ounces to tanker trucks with a capacity of several thousand gallons. The inside surfaces of the vehicles were stained with spilled chemicals and many areas of stained soil were evident.

Several acres of the property are covered with solid waste potentially up to 20-30 feet deep. It is unknown if there are buried containers within and/or underneath this debris pile.

3. High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate [300.415(b)(2)(iv)]

Nearly all of the operational area of the Site is covered in solid waste at a thickness from what appears to be one or two feet up to 20 to 30 feet deep. Locating exposed surface soil from which to collect samples proved to be difficult because the solid waste on the surface covered nearly all potential sample locations in the operational area. Nonetheless, EPA was able to collect a total of 13 surface soil samples from the property and submitted these samples to a laboratory for analysis. Analytical results indicated that every one of the 13 samples submitted exceeded an EPA RSL, RML, and/or Washington MTCA Method A Cleanup Level for at least one contaminant, primarily metals and SVOCs, including lead, cadmium, benzo(a)pyrene, and TTEC.

4. Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or to be released [300.415(b)(2)(v)]

The Site is positioned topographically higher than much of the surrounding area and exposed to rain, snow, and wind, which subjects the contaminated soil to erosion and water runoff. The cumulative effect of these weather-related phenomena may cause contaminants to migrate to neighboring properties and nearby May Creek, located approximately 1,000 feet downhill from the Site and a tributary of the Cedar River-Lake Washington watershed.

5. The availability of other appropriate federal or state response mechanisms to respond to the release [300.415(b)(2)(vii)]

There are no known other appropriate federal or state response mechanisms capable of providing the appropriate resources in the prompt manner needed to address the potential human health risks associated with the hazardous substances described herein.

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances from this Site may present an imminent and substantial endangerment to the public health, or welfare, or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

1. Proposed action description

EPA will locate, characterize, and dispose of all remaining improperly managed hazardous substances on Site (estimated to be approximately 200-300 containers). During the 2016 investigation, EPA estimated that hundreds of containers were improperly managed (e.g., unlabeled, leaking, corroded, etc.) on Site. A representative sampling and analysis of these drums, buckets, and smaller vessels indicated that they contained flammable, corrosive, and toxic substances and many of them were leaking and releasing their contents into the environment. During the 2018 site walk, EPA discovered that many of the containers observed in 2016 were missing. Although the property owner was ordered not to dispose of the chemicals by order of Judge Julia Garratt, dated June 15, 2018,¹³ the property owner told EPA that he dumped the contents of the containers he believed to contain latex paint onto the ground surface on the Site and mixed the released liquids with wood chips as an absorbent. The property owner believes the remaining 200-300 containers hold the flammable, corrosive, and/or toxic substances identified by EPA.

As a result of this removal action, all known and accessible abandoned chemical containers with hazardous substances will be removed and disposed.

EPA also will conduct additional site investigation. Additional investigation is necessary because the complete extent of soil contamination, and potential surface water and groundwater contamination, is unknown. This action includes the following investigation activities:

- Soil sampling in the area identified by the property owner and by visual evidence observed by EPA where the purported latex paint was dumped and mixed with wood chips.
- Installation of test pits in the landfill area. A series of approximately 10 test pits will be installed to assess the contents of the landfill to determine if additional containers or hazardous substances have been deposited in this area. The test pits will be dug using extended reach excavators and, where possible, soil samples will be collected to determine whether the soil has been contaminated with hazardous substances.
- Conduct a survey to determine whether asbestos-containing materials (ACM) have been disposed on site. During the 2018 site walk, EPA observed the presence of potential ACM.
- Installation of approximately five groundwater monitoring wells and groundwater sampling. EPA will install approximately five groundwater monitoring wells and conduct one round of sampling from the wells to determine whether the documented soil contamination on Site has resulted in contamination of the shallow groundwater.

¹³ State of Washington v. Charles Edwin Pillon, Superior Court of Washington for King County, No. 16-01-05983-6 KNT, Judgment and Sentence Felony, June 15, 2018.

- Surface water sampling. EPA will conduct surface water sampling to determine whether surface water on the Site and/or surface water runoff from the Site is transporting contaminants off-Site.

Based on the results of the investigations to be undertaken during the removal action, additional removal activities may be undertaken, e.g. removal of asbestos-containing materials. However, the additional removal actions may be somewhat limited or delayed by the large volume of solid waste, estimated at approximately 20,000 cubic yards, at the Site. It is anticipated that once EPA concludes this removal action, other entities (state and/or county agencies) may begin assessment and removal of this remaining solid waste.

1. Construction Best Management Practices:

Appropriate and practicable construction Best Management Practices (BMPs) will be implemented during cleanup activities to protect workers, the community, and the environment from short-term investigation-related impacts. A water truck will be used on-site to spray water on any debris or soil being handled or removed to minimize the generation of airborne dust. The handling and removal of any ACM, if present, will be performed by a certified asbestos abatement contractor with AHERA-certified asbestos supervisor and workers. Site workers will wear appropriate personal protective equipment, including respirators. Personal and stationary air sampling will be performed to ensure that the work is performed in a manner that does not expose site workers or the public to asbestos.

2. Contribution to remedial performance

The proposed action will, to the extent practicable, contribute to the efficient performance of any long-term remedial action. If future actions are required, the proposed removal action will likely not impede those actions based on available information.

3. Engineering Evaluation/Cost Analysis

An Engineering Evaluation/Cost Analysis is not required because this removal action is a time-critical action.

4. Applicable or relevant and appropriate requirements

The NCP requires that removal actions attain Applicable or Relevant and Appropriate Requirements (ARARs) under federal or state environmental or facility siting laws, to the extent practicable. In determining whether compliance with ARARs is practicable, EPA may consider the scope of the removal action and the urgency of the situation (40 CFR §300.415(j)).

Federal ARARs

Clean Air Act, 42 U.S.C. §§ 7401, et seq., National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 C.F.R. Part 61, Subpart M. Subpart M addresses asbestos milling, manufacturing, and fabricating operations, demolition and renovation activities, waste disposal issues, active and inactive waste disposal sites, and asbestos conversion processes. Subpart M is

potentially applicable to the notification, handling, packaging, labeling, transportation, and disposal of asbestos-containing material. Specifically, the Subpart M regulations that are potentially applicable to this action are: 40 C.F.R. § 61.145, Asbestos Emissions Standards for Demolition and Renovation; 40 C.F.R. § 61.150, Standards for Waste Disposal from Demolition and Renovation; and 40 C.F.R. § 61.154, Standards for Active ACM Waste Disposal Sites.

Resource Conservation and Recovery Act (RCRA), 42 U.S.C. § 6901, Subtitle "C" - Hazardous Waste Management, 40 C.F.R. Parts 260 to 279. Federal hazardous waste regulations specify hazardous waste identification, management, and disposal requirements. For the management of RCRA hazardous wastes that are not Bevill-exempt, applicability of Subtitle C provisions depend on whether the waste is managed within an Area of Contamination (AOC). 55 FR 8760 (Mar. 8, 1990). Applicable or relevant and appropriate requirements of RCRA Subtitle C (or the state equivalent) may be satisfied by off-site disposal, consistent with the Off-Site Rule, 40 C.F.R. § 300.440. RCRA Subtitle C also provides treatment standards for debris contaminated with hazardous waste ("hazardous debris"), 40 C.F.R. § 268.45, although the lead agency may determine that such debris is no longer hazardous, consistent with 40 C.F.R. § 261.3(f)(2), or equivalent state regulations.

National Historic Preservation Act, 16 U.S.C. § 470 and 36 C.F.R. Part 800. The National Historic Preservation Act (NHPA) and implementing regulations require federal agencies to consider the possible effects on historic sites or structures of any actions proposed for federal funding or approval. Historic sites or structures are those included on or eligible for the National Register of Historic Places (NRHP), generally older than 50 years. If an agency finds a potential adverse effect on historic sites or structures, such agency must evaluate alternatives to "avoid, minimize, or mitigate" the impact, in consultation with the State Historic Preservation Office (SHPO) and/or Tribal Historic Preservation Officer (THPO).

Endangered Species Act, 16 U.S.C. § 1536. The Endangered Species Act (ESA) requires that each federal agency ensure, through consultation, that any action authorized, funded, or carried out by that agency is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of critical habitat for endangered or threatened species.

State ARARs

RCW Chapter 70.105, Hazardous Waste Management Act, and the dangerous waste regulations, WAC Chapter 173-303. Depending on the materials and conditions onsite, various provisions of the statute and regulation may be applicable, including the solid waste designation requirements of WAC 173-303-070 and 170, the disposal requirements of WAC 173-303-141 and the spill and discharge requirements of WAC 173-303-145.

RCW Chapter 70.105D, Model Toxics Control Act, and implementing regulations WAC Chapter 173-340. Various provisions, including remedial action requirements and cleanup standards may apply.

RCW Chapter 70.95, Solid Waste Management, and WAC Chapter 173-350, the Solid Waste Handling Standards. May apply to the extent there is non-hazardous solid waste on the site.

RCW Chapter 90.48, Water Pollution Control. May apply to the extent contamination from the site has entered waters of the state.

RCW Chapter 70.94, Air Pollution Control Act. May apply to the extent there are air emissions from materials on site.

5. Project schedule

Removal activities are expected to begin as quickly as possible, preferably in early November 2018, and are to be completed during the fall of 2018. It is expected that project implementation will take approximately 28 days to complete.

B. Estimated Costs *

| | |
|--|------------------|
| Extramural Costs ERRS | \$320,000 |
| Other Extramural Costs not funded from the Regional Removal Allowance START | \$286,000 |
| Subtotal | \$586,000 |
| Cost Contingency 20% | \$121,200 |
| Total Removal Projected costs | \$727,200 |

¹Direct Costs include direct extramural costs and direct intramural costs. Indirect costs are calculated based on an estimated indirect cost rate expressed as a percentage of site-specific direct costs, consistent with the full cost accounting methodology effective October 2, 2000. These estimates do not include pre-judgment interest, do not take into account other enforcement costs, including Department of Justice costs, and may be adjusted during the course of a removal action. The estimates are for illustrative purposes only and their use is not intended to create any rights for responsible parties. Neither the lack of a total cost estimate nor deviation of actual total costs from this estimate will affect the United States' right to cost recovery.

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

A delay in action or no action at the Site would increase the actual or potential threats to the public health, or welfare, or the environment. If the hazardous substances are not removed, there is a high potential for the material in the containers to be released to the environment and for contaminants at the Site to migrate off the Site.

VII. OUTSTANDING POLICY ISSUES

None.

VIII. ENFORCEMENT

Refer to the attached confidential enforcement addendum.

IX. RECOMMENDATION

This decision document represents the selected time-critical removal action for the May Creek Landfill Site in Renton, King County, Washington developed in accordance with CERCLA as amended, and is not inconsistent with the NCP. This decision document is based on the administrative record for the Site.

X. APPROVAL/DISAPPROVAL

By the approval which appears below, EPA selects the removal action for the Site as set forth in the recommendations contained in this Action Memorandum.

XI. ATTACHMENTS

Attachment A: Confidential Enforcement Addendum

Figure 1: Site Location Map

Figure 2: 2016 Sample Location Map

Table 1: 2016 Hazard Categorization Results for Liquid/Waste Samples

Table 2: 2016 Hydrocarbon Identification Results

Table 3: 2016 Liquid/Waste Analytical Laboratory Results

Table 4: 2016 Surface Soil Analytical Laboratory Results

Approve: ✓

 10/19/2018

Sheryl Bilbrey, Director
Office of Environmental Cleanup

Disapprove: _____

Sheryl Bilbrey, Director
Office of Environmental Cleanup

REFERENCES

Ecology and Environment, Inc., 2016, May Creek Landfill Final Trip Report, prepared for United States Environmental Agency, Contract Number EP-S7-13-07, Technical Direction Document # 16-02-0007. EPA.

Seattle and King County, Washington Public Health, Solid Waste, Rodents, Zoonotic Disease Program, February 8, 2016. Memorandum: Inspection Summary and Regulatory Issues at 15753 SE Renton-Issaquah Road, Renton, WA 98506.

Table 1 Hazard Categorization Results

| Sample ID | ContainerID | State | Color | Viscosity | Turbidity | Water | Solubility | pH | Oxidizer | Sulfide | Cyanide | Flammability | Beilstein | IodineSat | CharTest | Vapor | Other Comments | DOT Hazard Class |
|-----------|-------------|--------|--------------|-----------------|-------------|-------|----------------------|----|----------|---------|---------|--------------|---------------|------------------------------|------------------|---------------------------|--|---------------------------------------|
| 16084618 | TA06PR | Liquid | Black | Heavy Oil | Opaque | No | Insoluble and floats | 7 | No | No | N/A | >200°F | Yellow/Orange | Undetermined/Uninterpretable | Charring residue | Spiderweb Vapors | Some water in sample jar | 3 – Flammable and Combustible Liquids |
| 16084619 | TC01PR | Liquid | Brown | Medium Oil | Opaque | No | Insoluble and floats | 7 | No | No | N/A | >200°F | Yellow/Orange | N/A | Tar | Spiderweb Vapors | Fish oil odor, bottom layer water | 3 – Flammable and Combustible Liquids |
| 16084620 | TC02PR | Liquid | Light Yellow | Less than Water | Translucent | Yes | Miscible | 7 | No | No | N/A | Nonflammable | Yellow/Orange | N/A | No residue | Vapors that do not ignite | | 9 – Miscellaneous Hazardous Materials |
| 16084621 | TC03PR | Liquid | Brown | Less than Water | Opaque | No | Insoluble and floats | 7 | No | No | N/A | <100°F | Yellow/Orange | Undetermined/Uninterpretable | Tar | Vapors that ignite | | 3 – Flammable and Combustible Liquids |
| 16084622 | TC04PR | Liquid | Yellow | Less than Water | Clear | No | Insoluble and floats | 7 | No | No | N/A | <100°F | Yellow/Orange | Red | Charring residue | Vapors that ignite | | 3 – Flammable and Combustible Liquids |
| 16084623 | TB02DR | Liquid | Black | Medium Oil | Opaque | No | Insoluble and floats | 7 | No | No | N/A | >200°F | Yellow/Orange | Undetermined/Uninterpretable | Charring residue | Spiderweb Vapors | | 3 – Flammable and Combustible Liquids |
| 16084624 | TB03DR | Liquid | Red | Waterlike | Translucent | Yes | Miscible | 13 | No | No | No | Nonflammable | Yellow/Orange | N/A | White residue | Vapors that do not ignite | Slight layer of heavy oil on top of liquid | 88 – Basic Corrosive Materials |
| 16084625 | TB04DR | Liquid | Red | Medium Oil | Translucent | No | Insoluble and floats | 7 | No | No | N/A | >200°F | Yellow/Orange | Undetermined/Uninterpretable | Tar | Spiderweb Vapors | Very light tar after char test | 3 – Flammable and Combustible Liquids |
| 16084626 | TB01DR | Liquid | Black | Medium Oil | Opaque | No | Insoluble and floats | 7 | No | No | N/A | >200°F | Yellow/Orange | Undetermined/Uninterpretable | Charring residue | Spiderweb Vapors | | 3 – Flammable and Combustible Liquids |

Key:
 ID = Identification.
 N/A = Not applicable.

Table 4 Soil Samples Analytical Results Summary

| EPA Sample ID | MTCA Method | Removal | 16084610 | 16084601 | 16084602 | 16084603 | 16084604 | 16084605 | 16084615 | 16084611 | 16084616 | 16084617 | 16084612 | 16084613 | 16084614 | |
|---|--------------|-------------------|------------|---------------|----------|----------|----------|----------|---------------|----------|----------|-------------|----------|----------|----------|---------|
| Station Location | A, | Regional | TD05SS | TA01SS | TA02SS | TA03SS | TA04SS | TA05SS | TD04SS | TB01SS | TB02SS | TB03SS | TD01SS | TD02SS | TD03SS | |
| Organic CLP Sample ID | Unrestricted | Screening Level - | JHFR9 | JHFR0 | JHFR1 | JHFR2 | JHFR3 | JHFR4 | JHFR14 | JHF10 | JHF15 | JHF16 | JHF11 | JHF12 | JHF13 | |
| Inorganic CLP Sample ID | land use | Residential | MJHFR9 | MJHFR0 | MJHFR1 | MJHFR2 | MJHFR3 | MJHFR4 | MJHFR14 | MJHFR10 | MJHFR15 | MJHFR16 | MJHFR11 | MJHFR12 | MJHFR13 | |
| Description | | Level - | Background | Landfill Area | | | | | Workshop Area | | | Bus/RV Area | | | | |
| Target Analyte List Metals (mg/kg) | | Residential | | | | | | | | | | | | | | |
| Aluminum | | 7700 | 77000 | 15500 | 7200 | 4300 | 13300 | 9980 | 19100 | 8520 | 7340 | 15000 | 10300 | 1020 | 9520 | 7210 |
| Arsenic | 20 | 0.68 | 34 | 7.6 | 4.3 | 2.1 | 7 | 8.6 | 10.6 | 10.4 | 18.6 | 3.4 | 4.3 | 0.99 U | 5.8 | 12.4 |
| Barium | | 1500 | 15000 | 123 | 64.9 | 39.2 | 109 | 72.7 | 156 | 113 | 154 | 109 | 80.8 | 32.8 | 55.7 | 98.9 |
| Beryllium | | 16 | 160 | 0.4 JQ | 0.22 JQ | 0.13 JQ | 0.46 JQ | 0.31 JQ | 0.54 | 0.26 JQ | 0.056 JQ | 0.32 JQ | 0.29 JQ | 0.065 JQ | 0.33 JQ | 0.21 JQ |
| Cadmium | 2 | 7.1 | 70 | 0.6 | 0.87 | 0.76 | 0.82 | 0.67 | 0.94 | 0.81 JQ | 2.8 | 1.3 | 12 | 0.12 JQ | 2.6 | 0.69 |
| Calcium | | | | 3220 | 5820 | 4070 | 10000 | 5970 | 5760 | 22500 | 21200 | 8840 | 5270 | 21300 | 5800 | 16400 |
| Chromium | 19 | 12000 | 120000 | 19.5 | 18.8 | 16.8 | 25.9 | 26.4 | 31.6 | 34.8 | 23.4 | 32.4 | 51.6 | 1.6 | 22.6 | 26.5 |
| Cobalt | | 2.3 | 23 | 5.6 | 4.5 JQ | 2.8 JQ | 7.7 | 6.5 | 11.4 | 5.5 JQ | 7.7 | 11 | 9.7 | 0.68 JQ | 7 | 4.2 JQ |
| Copper | | 310 | 3100 | 15.5 JH | 30.4 JH | 49.8 JH | 36.9 JH | 30.1 JH | 57.4 JH | 50 JH | 120 JH | 61 JH | 80.3 JH | 15.5 JH | 55.5 JH | 42.1 JH |
| Iron | | | | 15100 | 11200 | 8810 | 18900 | 15600 | 25100 | 12600 | 13500 | 21200 | 22400 | 1770 | 27100 | 10400 |
| Lead | 250 | 400 | 400 | 17 | 32.5 | 29.7 | 31.4 | 23.2 | 15.7 | 52.9 | 143 | 68.5 | 165 | 0.9 JQ | 60 | 42.2 |
| Magnesium | | | | 2380 | 3000 | 1680 | 3630 | 4760 | 6960 | 3660 | 3340 | 8220 | 6410 | 7910 | 3330 | 3000 |
| Manganese | | 180 | 1800 | 883 JH | 212 JH | 154 JH | 420 JH | 338 JH | 491 JH | 318 JH | 5710 JH | 336 JH | 315 JH | 124 JH | 333 JH | 245 JH |
| Mercury | 2 | 1.1 | 9.4 | 0.081 JQ | 0.061 JQ | 0.08 JQ | 0.19 | 0.13 JQ | 0.094 JQ | 0.22 JQ | 0.1 JQ | 0.042 JQ | 0.05 JQ | 0.02 JQ | 0.057 JQ | 0.12 JQ |
| Nickel | | 150 | 1500 | 18.1 | 22.3 | 12.1 | 21.2 | 24.3 | 28.5 | 23.1 | 28 | 27.9 | 25.4 | 1.7 JQ | 23.6 | 19.1 |
| Potassium | | | | 604 | 502 JQ | 420 | 1160 | 796 | 3000 | 918 | 829 | 1210 | 637 | 2190 | 551 | 754 |
| Sodium | | | | 70.6 JQ | 198 JQ | 238 JQ | 160 JQ | 147 JQ | 211 JQ | 237 JQ | 286 JQ | 438 | 415 | 660 | 276 JQ | 205 JQ |
| Vanadium | | 39 | 390 | 34.9 | 28.5 | 15.9 | 47.3 | 35.1 | 54.7 | 30.3 | 28.4 | 39.9 | 38.8 | 2.3 JQ | 29.9 | 24.3 |
| Zinc | | 1200 | 23000 | 47 | 106 | 98.5 | 123 | 103 | 83.3 | 193 | 531 | 118 | 163 | 28.1 | 238 | 153 |
| Semivolatile Organic Compounds (µg/kg) | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | | 24000 | 230000 | 4.7 U | 27 U | 20 U | 3.1 JQ | 4.9 | 5.1 U | 140 | 27 U | 3.7 U | 220 JH | 13 U | 19 U | 35 U |
| Acenaphthene | | 360000 | 3500000 | 4.7 U | 4.4 JQ | 3.8 JQ | 33 | 67 | 5.1 U | 160 | 6.1 JQ | 0.97 JQ | 140 U | 13 U | 1.9 JQ | 39 |
| Acenaphthylene | | | | 4.7 U | 6.9 JQ | 4.7 JQ | 23 | 32 | 0.98 JQ | 81 | 15 JQ | 4.3 | 140 U | 13 U | 4.1 JQ | 14 JQ |
| Anthracene | | 1800000 | 17000000 | 1.3 JQ | 20 JQ | 14 JQ | 330 | 330 | 2 JQ | 310 | 31 | 8.4 | 80 JQ | 13 U | 13 JQ | 130 |
| Benzo(a)anthracene | | 160 | 15000 | 1.4 JQ | 150 JK | 56 JK | 370 | 710 | 1.7 JQ | 310 JK | 95 JK | 18 JK | 140 UJK | 13 U | 19 JK | 290 JK |
| Benzo(a)pyrene | 100 | 16 | 1500 | 1.2 JQ | 130 | 62 | 380 JK | 770 JK | 2.4 JQ | 270 | 110 | 24 | 86 JQ | 13 U | 23 | 310 |
| Benzo(b)fluoranthene | | 160 | 15000 | 4.2 JQ | 330 | 92 | 780 JK | 1500 JK | 6.8 | 500 | 170 | 31 | 480 | 1.9 JQ | 42 | 600 |
| Benzo(g,h,i)perylene | | | | 2.5 JK | 51 JK | 35 JK | 320 | 480 | 5 JK | 84 JK | 54 JK | 12 JK | 120 JK | 13 JQ | 29 JK | 110 JK |
| Benzo(k)fluoranthene | | 1600 | 150000 | 0.97 JQ | 27 U | 28 | 350 JK | 480 | 2 JQ | 190 | 53 | 14 | 140 U | 13 U | 16 JQ | 200 |
| Bis(2-ethylhexyl)phthalate | | 38000 | 1200000 | 240 U | 1000 JQ | 200 JQ | 270 JQ | 490 | 260 U | 1500 JQ | 560 JQ | 160 JQ | 17000 | 690 U | 350 JQ | 1000 JQ |
| Butylbenzylphthalate | | 290000 | 12000000 | 240 U | 1400 JK | 190 JQ | 350 U | 250 U | 260 U | 2000 UJK | 1400 U | 120 JQ | 7400 U | 690 U | 190 JQ | 1800 U |
| Chrysene | | 16000 | 1500000 | 3.3 JQ | | 53 JK | 430 | 860 | 3.3 JQ | 510 JK | 150 JK | 25 JK | 240 JK | 13 U | 19 JK | 420 JK |
| Fluoranthene | | 240000 | 2300000 | 3.4 JQ | 120 | 100 | 1100 | 2300 | 2.8 JQ | 1100 | 110 | 30 | 200 | 10 JQ | 50 | 850 |
| Fluorene | | 240000 | 2300000 | 4.7 U | 27 U | 20 U | 48 | 100 | 5.1 U | 120 | 27 U | 3.7 U | 140 U | 13 U | 19 U | 57 |
| Indeno(1,2,3-cd)pyrene | | 160 | 15000 | 1.3 JK | 28 JK | 27 JK | 350 | 550 | 2.9 JK | 54 JK | 40 JK | 11 JK | 55 JK | 4.3 JQ | 13 JK | 100 JK |
| Naphthalene | 5000 | 3800 | 130000 | 4.7 U | 27 U | 20 U | 6.8 U | 12 | 5.1 U | 39 U | 27 U | 3.7 U | 73 JQ | 13 U | 19 U | 35 U |
| Pentachlorophenol | | 1000 | 99000 | 5 JQ | 56 U | 40 U | 41 | 29 | 10 U | 310 | 55 U | 24 | 290 U | 27 U | 39 U | 75 |
| Phenanthrene | | | | 2.9 JQ | 74 | 50 | 600 | 1400 | 1.6 JQ | 490 | 67 | 16 | 560 JH | 6.2 JQ | 27 | 310 |
| Pyrene | | 180000 | 1700000 | 2.6 JQ | 190 JK | 85 JK | 940 | 2200 | 3.2 JQ | 910 JK | 140 JK | 29 JK | 540 JK | 5.4 JQ | 36 JK | 740 JK |
| TTEC | 100 | | | 0.13 | 180.8 | 82.83 | 569.3 | 1102.6 | 0.97 | 380.5 | 147.3 | 31.65 | 55.9 | | 30.59 | 433.2 |
| Total Petroleum Hydrocarbons (mg/kg) | | | | | | | | | | | | | | | | |
| TPH-GC/Motor Oil Range Organics | 2000 | | | 25 | 2200 JK | 350 | 1700 | 250 | 130 | 3400 | 480 | 280 | 36000 | 120 | 760 | 640 |
| TPH-Gx Gasoline Range Organics | 100 | | | 8.5 U | 26 JH | 15 | 48 UJH | 5.6 U | 7.6 U | 72 UJH | 6.3 U | 4.3 U | 5.2 U | 52 U | 6.3 U | 20 UJH |
| Polychlorinated Biphenyls (µg/g) | | | | | | | | | | | | | | | | |
| Aroclor-1242 | | 230 | 24000 | 47 U | 17 JQ | 39 U | 68 U | 48 U | 52 U | 77 U | 54 U | 37 U | 36 U | 140 U | 40 U | 17 JK |
| Aroclor-1254 | | 120 | 1100 | 47 U | 55 U | 39 U | 68 U | 48 U | 52 U | 39 JK | 28 JQ | 7.4 JQ | 60 | 140 U | 21 JQ | 69 U |
| Aroclor-1260 | | 240 | 24000 | 1.8 JK | 9.6 JK | 6.9 JK | 68 U | 48 U | 2.6 JQ | 77 U | 54 U | 37 U | 100 | 140 U | 19 JK | 9.3 JK |

| EPA Sample ID | MTCA Method | Regional | Removal | 16084610 | 16084601 | 16084602 | 16084603 | 16084604 | 16084605 | 16084615 | 16084611 | 16084616 | 16084617 | 16084612 | 16084613 | 16084614 |
|---|--------------|-------------------|-------------|------------|---------------|------------|----------|----------|----------|-----------|---------------|----------|------------|-------------|-----------|-------------|
| Station Location | A, | Screening Level - | Management | TD05SS | TA01SS | TA02SS | TA03SS | TA04SS | TA05SS | TD04SS | TB01SS | TB02SS | TB03SS | TD01SS | TD02SS | TD03SS |
| Organic CLP Sample ID | Unrestricted | Residential | Level - | JHFR9 | JHFR0 | JHFR1 | JHFR2 | JHFR3 | JHFR4 | JHF14 | JHF10 | JHF15 | JHF16 | JHF11 | JHF12 | JHF13 |
| Inorganic CLP Sample ID | land use | Residential | Residential | MJHFR9 | MJHFR0 | MJHFR1 | MJHFR2 | MJHFR3 | MJHFR4 | MJHFR14 | MJHFR10 | MJHFR15 | MJHFR16 | MJHFR11 | MJHFR12 | MJHFR13 |
| Description | | | | Background | Landfill Area | | | | | | Workshop Area | | | Bus/RV Area | | |
| Total PCBs | 1000 | | | 1.8 | 9.6 | 6.9 | | | | 39 | | | 160 | | 19 | 26.3 |
| Chlorinated Pesticides (µg/kg) | | | | | | | | | | | | | | | | |
| 4,4'-DDD | | 2300 | 220000 | 4.7 U | 4 JK | 3.9 U | 1 JK | 4.8 U | 5.3 U | 7.8 U | 5.5 U | 3.8 U | 12 JK | 13 U | 3.9 U | 6.8 U |
| 4,4'-DDE | | 2000 | 160000 | 4.7 U | 6.2 JK | 3.9 U | 4.3 JQ | 0.77 JK | 2.9 JQ | 8.9 JK | 2.5 JK | 3.8 U | 1.8 JQ | 13 U | 3.9 U | 14 JK |
| 4,4'-DDT | 3000 | 1900 | 36000 | 4.7 U | 7.6 JK | 0.93 JQ | 5.4 JQ | 5.7 | 2.2 JK | 14 JL | 7.6 JK | 0.95 JQ | 6.1 JL | 13 U | 3.1 JK | 17 JK |
| beta-BHC | | 300 | 30000 | 2.4 U | 2.8 U | 2 U | 3.5 U | 2.4 U | 2.7 U | 4 U | 2.8 U | 1.9 U | 9.5 JK | 6.9 U | 2 U | 3.5 U |
| cis-Chlordane | | 1700 | 35000 | 2.4 U | 2.3 JK | 1.1 JQ | 1.2 JQ | 1.7 JK | 2 JQ | 4.4 JL | 2.1 JQ | 0.71 JQ | 1.8 U | 6.9 U | 2 U | 7.3 JK |
| Dieldrin | | 34 | 3100 | 4.7 U | 6.5 JK | 1.8 JQ | 5 JQ | 7.8 U | 1.9 JQ | 16 JK | 7.6 JK | 3.8 U | 3.6 U | 13 U | 3.9 U | 11 U |
| Endosulfan II | | 47000 | 370000 | 4.7 U | 5.4 U | 3.9 U | 6.8 U | 4.8 U | 5.3 U | 7.8 U | 5.5 U | 3.8 U | 11 JK | 13 U | 3.9 U | 6.8 U |
| Endosulfan sulfate | | | | 4.7 U | 5.4 U | 0.33 JK | 6.8 U | 0.47 JQ | 5.3 U | 7.8 U | 5.5 U | 3.8 U | 6.4 JL | 13 U | 3.9 U | 6.8 U |
| Endrin aldehyde | | | | 4.7 U | 5.4 U | 3.9 U | 6.8 U | 4.8 U | 5.3 U | 7.8 U | 5.5 U | 3.8 U | 4.3 JK | 13 U | 3.9 U | 2.5 JQ |
| Heptachlor | 130 | | 12000 | 2.4 U | 2.8 U | 2 U | 3.5 U | 2.4 U | 2.7 U | 4 U | 2.8 U | 1.9 U | 2.3 JK | 6.9 U | 2 U | 3.5 U |
| Heptachlor epoxide | 70 | | 800 | 2.4 U | 0.6 JQ | 2 U | 1.5 JQ | 0.73 JQ | 0.78 JQ | 4.1 U | 2.8 U | 1.9 U | 6.3 JK | 6.9 U | 2 U | 3.5 U |
| trans-Chlordane | | | | 2.4 U | 2.8 U | 0.99 JK | 3.5 U | 2.4 U | 1.8 JK | 4.6 U | 2.8 U | 1.9 U | 1.8 U | 6.9 U | 2 U | 18 U |
| Volatile Organic Compounds (µg/kg) | | | | | | | | | | | | | | | | |
| 2-Butanone | | | | 17 U | 100 | R | 78 | 20 U | 20 U | 49 | 23 U | 8.7 U | 11 | 100 U | 11 U | 68 |
| 2-Hexanone | | 20000 | 200000 | 17 UJK | 20 U | 10 U | 23 U | 20 U | 20 U | 20 U | 23 U | 8.7 U | 11 U | 100 U | 11 U | 28 U |
| 4-Methyl-2-pentanone | | 3300000 | 5300000 | 17 UJK | 20 U | 200 | 23 U | 20 U | 20 U | 20 U | 23 U | 8.7 U | 11 U | 100 U | 11 U | 28 U |
| Acetone | | 6100000 | 61000000 | 92 | 230 | R | 250 | 70 | 34 | 170 | 18 JQ | 9.1 | 32 | 57 JQ | 8.5 JQ | 250 |
| Carbon disulfide | | 77000 | 770000 | 8.6 U | 10 U | 5.1 U | 11 U | 10 U | 9.8 U | 25 | 12 U | 4.3 U | 5.3 U | 51 U | 5.4 U | 14 U |
| Ethylbenzene | 6000 | 5800 | 580000 | 8.6 U | 19 | 58 | 11 U | 10 U | 9.8 U | 10 U | 12 U | 4.3 U | 5.3 U | 51 U | 5.4 U | 14 U |
| Isopropylbenzene | | | | 8.6 U | 6.1 JQ | 5.9 | 11 U | 10 U | 9.8 U | 84 | 12 U | 4.3 U | 5.3 U | 51 U | 5.4 U | 5.3 JQ |
| m, p-Xylene | 9000 | 55000 | 550000 | 8.6 U | 150 | 190 | 11 U | 10 U | 9.8 U | 7.3 JQ | 12 U | 4.3 U | 5.3 U | 51 U | 5.4 U | 14 U |
| o-Xylene | 9000 | 65000 | 650000 | 8.6 U | 45 | 61 | 11 U | 10 U | 9.8 U | 10 U | 12 U | 4.3 U | 5.3 U | 51 U | 5.4 U | 14 U |
| Tetrachloroethene | 50 | 8100 | 81000 | 8.6 U | 10 U | 5.1 U | 11 U | 10 U | 9.8 U | 26 | 12 U | 4.3 U | 5.3 U | 51 U | 5.4 U | 14 U |
| Toluene | 7000 | 490000 | 4900000 | 3.4 JQ | R | R | 5.2 JQ | 10 U | 2.9 JQ | 8 JQ | 2.1 JQ | 4.3 U | 2.1 JQ | 8.9 JQ | 2.1 JQ | 4.9 JQ |
| Trichlorofluoromethane | | 2300000 | 730000 | 8.6 U | 10 U | 5.1 U | 11 U | 10 U | 9.8 U | 64 | 12 U | 4.3 U | | 51 U | 5.4 U | 14 U |

Note: Bold type indicates the sample result is above the Contract Required Quantitation Limit.
Yellow highlighted type indicates the sample result exceeds the MTCA Method A, unrestricted land use criteria.
Green highlight indicates the sample result exceeds the Regional Screening Level for residential land use.
Orange highlight indicates the sample results exceeds the Removal Management Level for residential land use.
Blank cells in the screening criteria columns indicates there is no value for this analyte.

Key:
µg/kg = microgram per kilogram.
CLP = Contract Laboratory Program.
EPA = United States Environmental Protection Agency.
H = High bias.
ID = Identification.
J = The associated value is an estimated quantity.
K = Unknown bias.
L = Low bias.
mg/kg = milligram per kilogram.
MTCA = Model Toxics Control Act.
Q = The detected concentration is below the method reporting limit/contract required quantitation limit but is above the method detection level.
R = The data are unusable. The analyte may or may not be present in the sample.
U = The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.
UJ = The analyte was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.

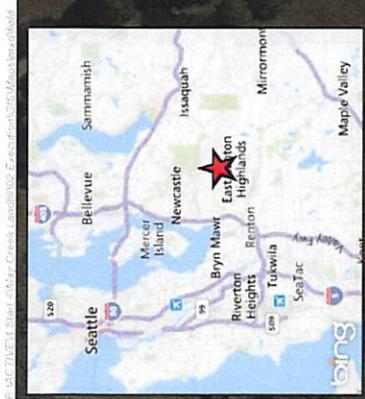
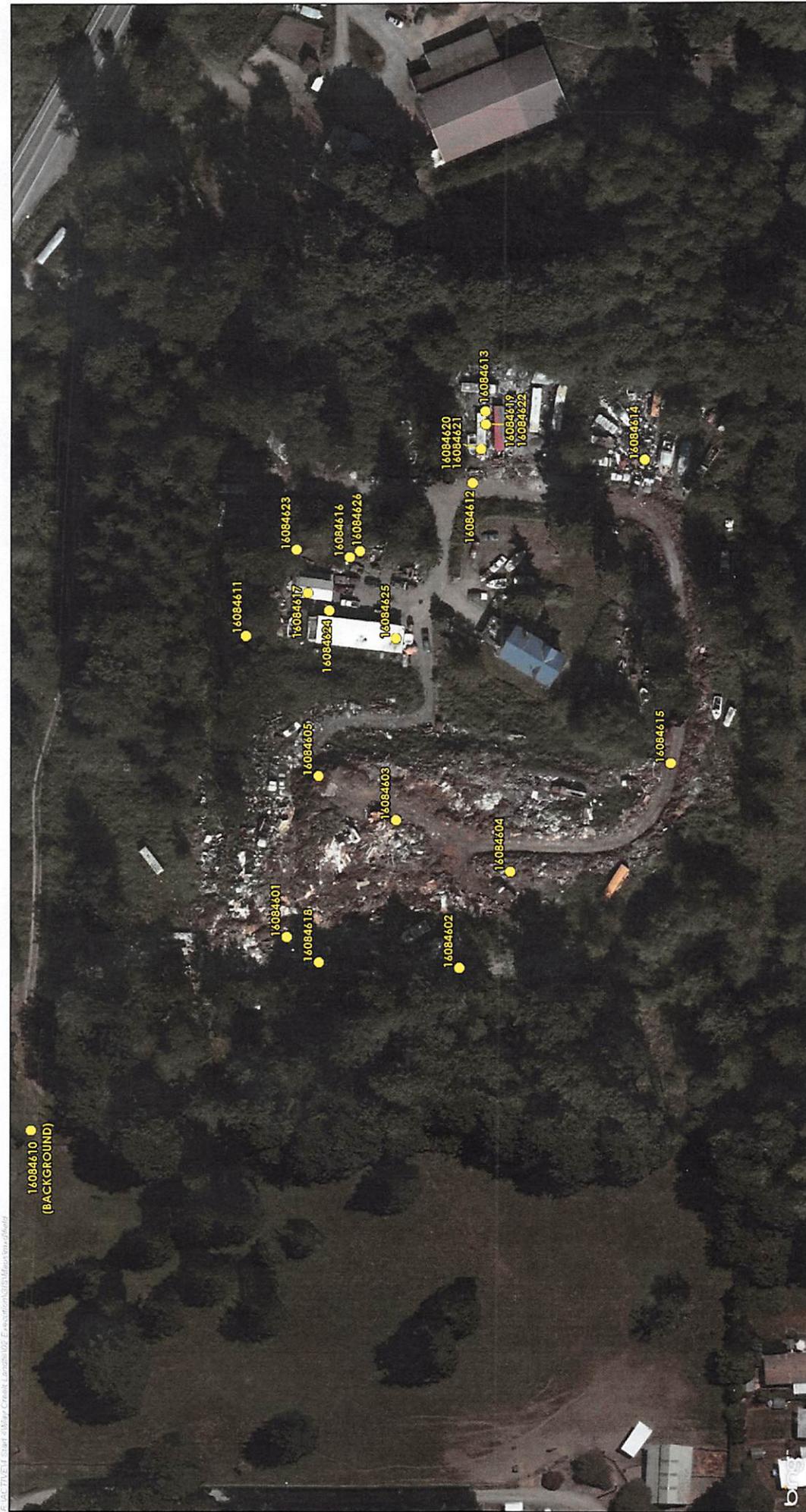


Figure 1
Site Vicinity
May Creek Landfill Site
 Renton, King County, Washington



Table 2 Hydrocarbon Identification Analytical Results Summary

| Sample Number | Station Location | Product/Waste Appearance | Hydrocarbon Identification |
|--------------------------|------------------|--------------------------------|--------------------------------------|
| 16084619 (organic phase) | TC01PR | Viscous caramel colored oil | Motor Oil |
| 16084619 (aqueous phase) | | Brownish colored water | Presence of motor oil |
| 16084621 | TC03PR | Tan colored organic solvent | Petroleum hydrocarbons not observed |
| 16084622 | TC04PR | Yellow colored organic solvent | Petroleum hydrocarbons not observed |
| 16084623 (organic phase) | TB02DR | Blackish colored oil | # 2 diesel and motor oil |
| 16084623 (aqueous phase) | | Relatively clear water | Presence of # 2 diesel and motor oil |
| 16084625 | TB04DR | Reddish-brown oil | Lube oil |
| 16084626 | TB01DR | Black oil | # 2 diesel and motor oil |



May Creek Landfill Site
Renton, King County, Washington

● Sample Locations*

*Sample locations are approximate

Table 3 Product/Waste Samples Analytical Results Summary

| EPA Sample ID | 40 CFR | 16084619 | 16084621 | 16084622 | 16084626 | 16084623 | 16084624 | 16084625 |
|------------------------------|-------------|----------|----------|----------|----------|----------|-----------|----------|
| Station Location | Subparts | | | | | | | |
| Flashpoint (Degrees Celsius) | C & D | TC01PR | TC03PR | TC04PR | TB01DR | TB02DR | TB03DR | TB04DR |
| Flashpoint | < 60 | >65 | <20 | <20 | >65 | >65 | NA | >65 |
| pH | | | | | | | | |
| pH | ≤2 or ≥12.5 | NA | NA | NA | NA | NA | 12.3 | NA |
| Metals (mg/L) | | | | | | | | |
| Aluminum | | NA | NA | NA | NA | NA | 90.3 JL | NA |
| Antimony | | NA | NA | NA | NA | NA | 0.42 JL | NA |
| Arsenic | 5 | NA | NA | NA | NA | NA | 1.1 JL | NA |
| Barium | 100 | NA | NA | NA | NA | NA | 1.75 JL | NA |
| Beryllium | | NA | NA | NA | NA | NA | 0.017 UJL | NA |
| Cadmium | | NA | NA | NA | NA | NA | 0.937 JL | NA |
| Calcium | | NA | NA | NA | NA | NA | 102 JL | NA |
| Chromium | 5 | NA | NA | NA | NA | NA | 4.02 JL | NA |
| Cobalt | | NA | NA | NA | NA | NA | 0.099 JL | NA |
| Copper | | NA | NA | NA | NA | NA | 64 JL | NA |
| Iron | | NA | NA | NA | NA | NA | 157 JL | NA |
| Lead | 5 | NA | NA | NA | NA | NA | 106 JL | NA |
| Magnesium | | NA | NA | NA | NA | NA | 20.3 JL | NA |
| Manganese | | NA | NA | NA | NA | NA | 3.19 JL | NA |
| Molybdenum | | NA | NA | NA | NA | NA | 6.66 JL | NA |
| Nickel | | NA | NA | NA | NA | NA | 0.551 JL | NA |
| Potassium | | NA | NA | NA | NA | NA | 202 JL | NA |
| Selenium | 1 | NA | NA | NA | NA | NA | 0.87 UJL | NA |
| Silver | 5 | NA | NA | NA | NA | NA | 0.17 UJL | NA |
| Sodium | | NA | NA | NA | NA | NA | 19300 JL | NA |
| Thallium | | NA | NA | NA | NA | NA | 0.87 UJL | NA |
| Vanadium | | NA | NA | NA | NA | NA | 0.26 JL | NA |
| Zinc | | NA | NA | NA | NA | NA | 58.5 JL | NA |

Note: Bold type indicates the sample results is above the Contract Required Quantitation Limit.
 Highlighted type indicates the sample results exceeds the established criteria.

- Key:
- EPA = United States Environmental Protection Agency.
 - ID = Identification.
 - J = The identification of the analyte is acceptable; however, the reported value is an estimate.
 - mg/L = milligrams per liter.
 - NA = the sample was not analyzed for this parameter.
 - U = The analyte was not detected at or above the reported value.