UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
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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
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]

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[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.

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[9] https://www.atsdr.cdc.gov/csem/csem.asp?=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/spripa/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.

May Creek Land Fill
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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~~** 606,000 SMF 10/19/18
Cost Contingency 20%	**$121,200**
Total Removal Projected costs	**$727,200**

[1]Direct 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.

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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: _____

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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	8B – 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 A, Unrestricted land use	Regional Screening Level - Residential	Removal Management Level - Residential	16084610	16084601	16084602	16084603	16084604	16084605	16084615	16084611	16084616	16084617	16084612	16084613	16084614
Station Location				TD05SS	TA01SS	TA02SS	TA03SS	TA04SS	TA05SS	TD04SS	TB01SS	TB02SS	TB03SS	TD01SS	TD02SS	TD03SS
Organic CLP Sample ID				JHFR9	JHFR0	JHFR1	JHFR2	JHFR3	JHFR4	JHF14	JHF10	JHF15	JHF16	JHF11	JHF12	JHF13
Inorganic CLP Sample ID				MJHFR9	MJHFR0	MJHFR1	MJHFR2	MJHFR3	MJHFR4	MJHFR14	MJHFR10	MJHFR15	MJHFR16	MJHFR11	MJHFR12	MJHFR13
Description				Background	Landfill Area						Workshop Area			Bus/RV Area		
Target Analyte List Metals (mg/kg)																
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	155	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 Station Location Organic CLP Sample ID Inorganic CLP Sample ID Description	MTCA Method A, Unrestricted land use	Regional Screening Level - Residential	Removal Management Level - Residential	16084610 TD05SS JHFR9 MJHFR9 Background	16084601 TA01SS JHFR0 MJHFR0	16084602 TA02SS JHFR1 MJHFR1	16084603 TA03SS JHFR2 MJHFR2	16084604 TA04SS JHFR3 MJHFR3	16084605 TA05SS JHFR4 MJHFR4	16084615 TD04SS JHF14 MJHFR14	16084611 TB01SS JHF10 MJHFR10	16084616 TB02SS JHF15 MJHFR15	16084617 TB03SS JHF16 MJHFR16	16084612 TD01SS JHF11 MJHFR11	16084613 TD02SS JHF12 MJHFR12	16084614 TD03SS JHF13 MJHFR13
					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.

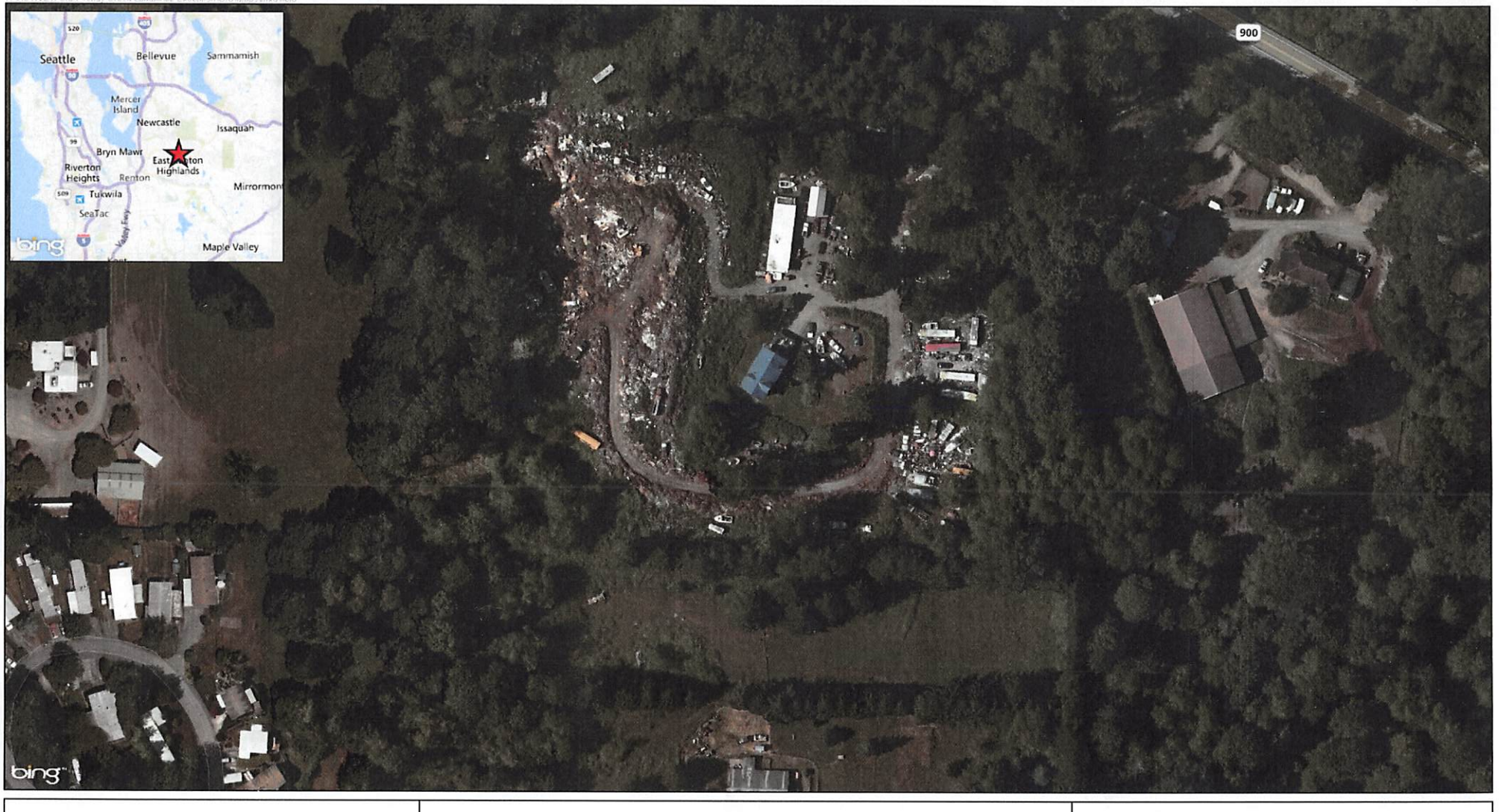

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Figure 1
Site Vicinity
May Creek Landfill Stie

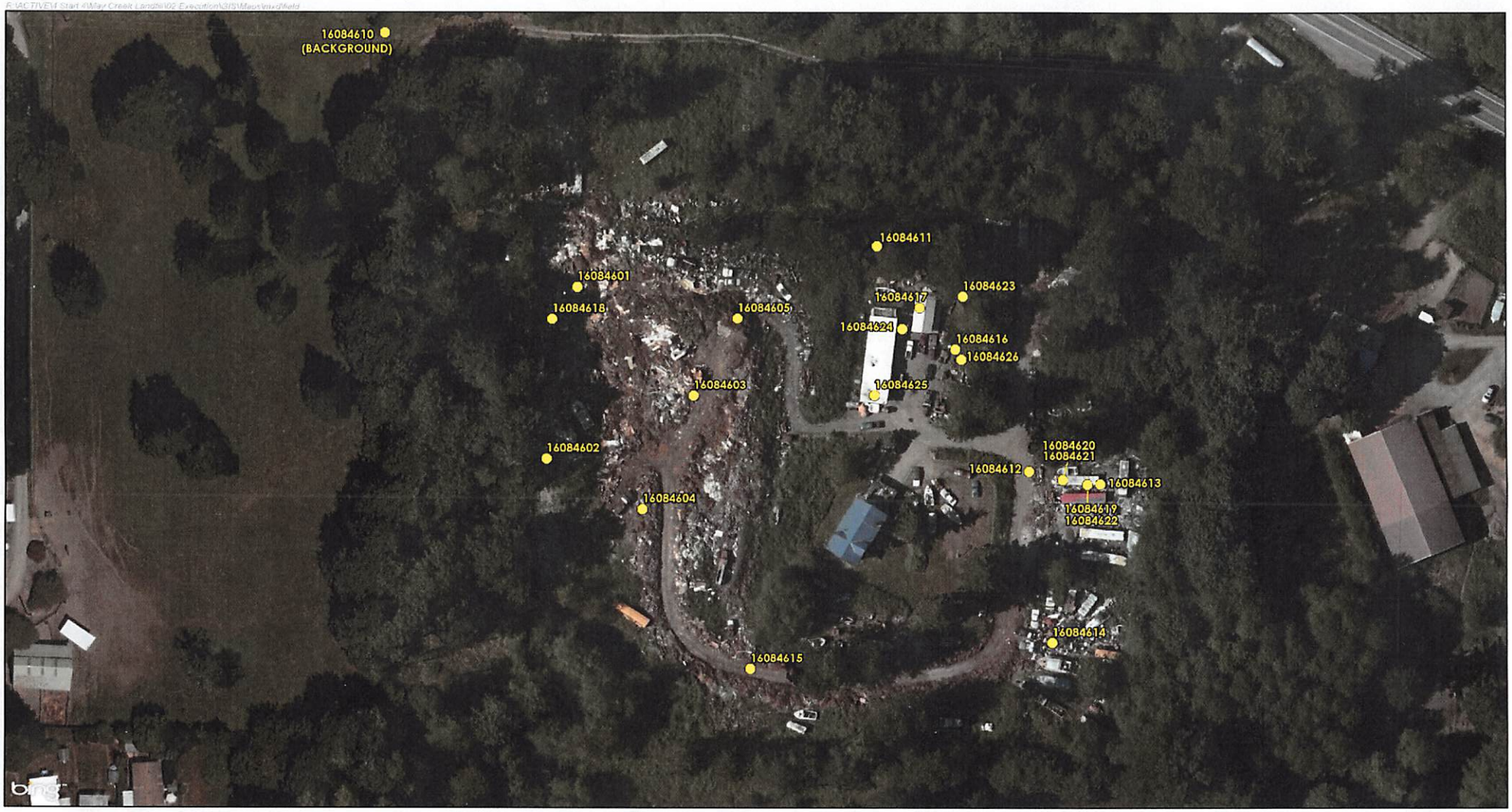
Renton, King County, Washington

100 50 0 100 200 Feet

N

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



Sample Locations*

*Sample locations are approximate

May Creek Landfill Stie

Renton, King County, Washington

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100 50 0 100 Feet

N

Table 3 **Product/Waste Samples Analytical Results Summary**

EPA Sample ID	40 CFR Subparts C & D	16084619	16084621	16084622	16084626	16084623	16084624	16084625
Station Location		TC01PR	TC03PR	TC04PR	TB01DR	TB02DR	TB03DR	TB04DR
Flashpoint (Degrees Celsius)								
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.