



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 8**

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Ref: 8SEM-EMR

**ACTION MEMORANDUM**

**SUBJECT:** Approval and Funding for an Emergency Removal Action at the Valley Drive Abandoned Slurry Site, Kalispell, Flathead County, Montana

**FROM:** Paul R. Peronard  
Federal On-Scene Coordinator

**THRU:** Kerry Guy, Supervisor  
Emergency Response Section

Deirdre Rothery, Manager  
Emergency Management Branch

**TO:** Betsy Smidinger, Director  
Superfund and Emergency Management Division

Site ID#: D5B4

**I. PURPOSE**

The purpose of this Action Memorandum is to document verbal approval received on Monday September 12, 2022, from the Superfund and Emergency Management Division Director, Betsy Smidinger to initiate the emergency removal action, request, document approval, and funding to continue the emergency removal action described herein for the Valley Drive Abandoned Slurry Site (Site) located in Kalispell, Flathead County, Montana. This emergency removal action involves the cleanup and proper disposal of hydrocarbon waste and debris abandoned by a former construction company. The waste contains numerous Polynuclear Aromatic Compounds (PAHs); ethylbenzene, xylene, and naphthalene. The Site was identified through a report by a private citizen to the National Response Center (NRC) and has been the subject of attempts by both Flathead County and the Montana Department of Environmental Quality to compel cleanup by the property owner. Conditions at the Site present a threat to public health and the environment and meet the criteria for initiating a removal action under 40 CFR § 300.415(b) of the National Contingency Plan (NCP). In July and August 2022, the U.S. Environmental Protection Agency (EPA) requested access from the property owner via phone, email, and mail to inspect and conduct cleanup activities on-site (Property). However, these requests were denied. As a result, the EPA, via the Department of Justice (DOJ), sought an Administrative Warrant for Access from the U.S. District Court for the District of Montana. The Court issued the requested warrant on September 7, 2022.

This emergency removal action is not considered nationally significant or precedent-setting. This removal action will not establish any precedent for how future response actions will be taken and will not commit the EPA to a course of action that could have a significant impact on future responses or resources.

## II. SITE CONDITIONS AND BACKGROUND

Site Name:	Valley Drive Abandoned Slurry Site
Superfund Site ID (SSID):	B8D5
NRC Case Number:	1341537
SEMS Number:	MTN0008211537
Site Location:	Kalispell, Flathead County, Montana
Lat/Long:	48.19233477/ -114.3959344
National Priorities List (NPL) Status:	Non-NPL
Expected Removal Start Date:	September 2022

### A. Site Description

#### 1. Removal Site Evaluation

On July 14, 2022, the EPA received a report (NRC-1341537) via the National Response Center of 11 large, abandoned tanks containing possibly 50,000 gallons of an asphalt sealer in Kalispell, Montana. The EPA identified the property where the abandoned tanks are located as 185 West Valley Drive, Kalispell, Montana (parcel number 0325250) (“Property”). The reporting party stated that several of the tanks were leaking. In a follow up conversation with the reporting party, the EPA Phone Duty Officer (Martin McComb) was told that the tanks had been abandoned on the property for a long period of time, and that both Flathead County and the MDEQ had attempted to contact the Property owner to require a cleanup of the property.

In follow up to the NRC call, an EPA On-Scene Coordinator (OSC) contacted the Flathead County Attorney’s Office for information on July 18, 2022. The OSC spoke to Mr. Travis Ahern, Flathead County Attorney. On July 20, 2022, Mr. Ahern provided the EPA with the following information via email and advised that EPA also reach out to the Montana Department of Environmental Quality (“MDEQ”):

- a. Flathead County received a complaint regarding the trash and debris on the Property in the summer of 2018.
- b. Flathead County made efforts to contact the Property owner via mail to issue a notice of violation of the County’s decay ordinance. The County’s efforts were unsuccessful.
- c. Flathead County conducted site visits at the Property in summer of 2018, summer of 2019, January 2020, February 2020, and July 2020.

- d. Flathead County posted a notice of violation on the property in 2020 with no response from the Property owner.
- e. Flathead County provided a list of potential addresses for the Property owner.

On July 18, 2022, MDEQ provided the EPA with its case files regarding the Property, including various potential contact information for the Property owner and data from MDEQ's August 22, 2018, sampling event on the Property ("MDEQ Sampling Data"). MDEQ's case files summarize their efforts in 2005 and from 2011 through 2017 to contact the property owner on multiple occasions through process server, mail, family members, and social media. MDEQ's attempts to contact the Property owner were unsuccessful.

MDEQ's case files included Field Investigation Reports relating to the Property dated July 18, 1996, and November 12, 2013. The 1996 report notes that the Property owner and her husband operated Sure-Seal, a road dust suppression business, from the Property. The 1996 report also notes that they were picking up crude oil tank bottoms from local businesses and veneer dryer precipitation residue from wood product plants. The 2013 report notes that one of the tanks on the Property had a "Road Oiling" label. Based on the MDEQ Sampling Data, MDEQ concluded that the material leaking from the tanks on the Property was likely tack oil. Tack oil is a black viscous product that is used as a binder for pavement surfacing. The MDEQ sampling results showed the presence of polynuclear aromatic hydrocarbons ("PAHs"), xylene, ethylbenzene, and naphthalene. PAHs, xylene, ethylbenzene, and naphthalene are listed as "Hazardous Substances" in Section 101 of CERCLA.

On July 27, 2022, an EPA OSC attempted to reach the Property owner by phone by calling six different phone numbers that are associated with the Property owner. Eventually, the EPA OSC successfully contacted the Property owner via telephone to discuss the situation at the Site. After a truncated conversation the Property owner informed the OSC that "...EPA couldn't do s\*\*\*." And hung up. In addition, the EPA sent written requests for access to the property to several addresses associated with the Property owner and via email. In response, the EPA received the response "f\*\*\* you and the horse you rode in on."

On August 2 and 3, 2022 an EPA OSC and START contractor conducted a brief Removal Site Inspection (RSI). This inspection included viewing the property from the County right-of-way without entering the property; sampling a black, viscous material that had leaked from one of the tanks onto the County right-of-way, assessing the area in the vicinity of the Site, and walking the potential drainage path from the property to nearby Ashley Creek. The OSC observed that several of the tanks were leaking, including the largest tank, which appeared to be leaning against fence posts adjacent to the right-of-way. The drainage system along the right-of-way leads toward Ashley Creek, via a mixture of residential and commercial properties. Sampling results from the EPA investigation were consistent with the MDEQ's investigations and confirmed the presence of the PAHs, xylene, ethylbenzene, and naphthalene (see Administrative Record).

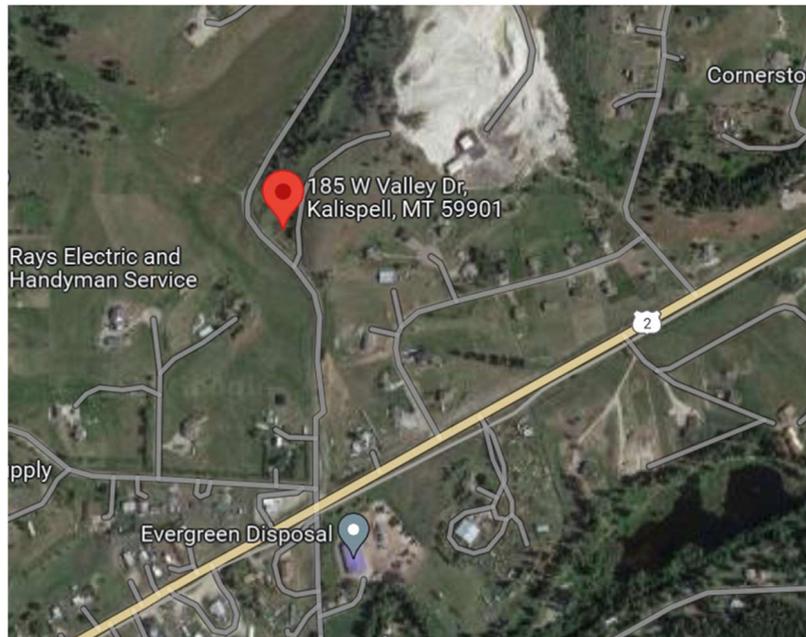
During the August RSI the OSC noted that although the Site was partially enclosed by a barbwire fence, it was easily passible, and the driveway into the Site open. There were numerous instances of graffiti on several of the tanks, and a smattering of clothes and other human detritus that indicated that some human entry to the Site was ongoing. During the August 2022 RSI, children were observed playing in and about the adjacent residential properties.

Photos of the Site and tanks are available in Attachment 2 and at: [https://response.epa.gov/site/site\\_profile.aspx?site\\_id=15686](https://response.epa.gov/site/site_profile.aspx?site_id=15686)

## 2. Physical Location

The Site consists of a single property located on the outskirts of Kalispell, Flathead County, Montana. Flathead County is a rural county located in northwestern Montana. In 2020 the US Census reported that Kalispell, MT had a population of 24,558. Kalispell is the county seat for Flathead County which reported a population of 104,357 as of the 2020 census. A Site map is provided in Attachment 2.

The area surrounding the Site is a mixture of residential and commercial properties. The Site is near the 80<sup>th</sup> percentile of potential Environmental Justice areas regionally and on a state-wide basis.



**Figure 1-Site Aerial Photograph**

## 3. Site Characteristics

The Site consists of an approximately ½-acre lot that holds 11 abandoned tanks ranging up to 20,000 gallons in size. The Site is also littered with trash and other debris, such as discarded refrigerators and a ramshackle trailer. The Site drains to the southwest into a drainage ditch that runs along West Valley drive and flows into Ashley Creek. Ashley Creek is a tributary to the Flathead River, which

subsequently flows into Flathead Lake. To the south and east of the Site is a largely residential area consisting of single-family homes. To the west is a large open field where horses were seen grazing, and to the southwest a mixture of residential and commercial properties. To the immediate north is a gravel quarry. According to the National Oceanographic and Atmospheric Administration website Kalispell has a “warm- summer humid continental climate,” characterized with long, cold, and moderately snowy winters, hot and dry summers, and short springs and autumns. Snow usually occurs from late October to March. Due to the temperature extremes and precipitation, ongoing weathering is expected to continue to physically degrade the abandoned tanks

Climate data for Kalispell, Montana (Glacier Park International Airport), 1981–2010 normals, <sup>[19]</sup> extremes 1899–present													[hide]
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Record high °F (°C)	56 (13)	64 (18)	73 (23)	85 (29)	95 (35)	102 (39)	104 (40)	105 (41)	99 (37)	86 (30)	69 (21)	58 (14)	105 (41)
Mean maximum °F (°C)	44.9 (7.2)	48.3 (9.1)	60.6 (15.9)	73.6 (23.1)	82.4 (28.0)	87.2 (30.7)	93.6 (34.2)	94.1 (34.5)	85.4 (29.7)	71.7 (22.1)	55.1 (12.8)	44.8 (7.1)	96.1 (35.6)
Average high °F (°C)	31.2 (-0.4)	36.0 (2.2)	45.6 (7.6)	56.1 (13.4)	65.1 (18.4)	72.0 (22.2)	81.4 (27.4)	81.4 (27.4)	69.9 (21.1)	54.9 (12.7)	39.6 (4.2)	29.7 (-1.3)	55.3 (12.9)
Average low °F (°C)	16.4 (-8.7)	18.2 (-7.7)	25.1 (-3.8)	31.2 (-0.4)	38.5 (3.6)	44.5 (6.9)	48.0 (8.9)	46.5 (8.1)	38.4 (3.6)	29.4 (-1.4)	24.0 (-4.4)	15.8 (-9.0)	31.4 (-0.3)
Mean minimum °F (°C)	-8.8 (-22.7)	-3.4 (-19.7)	10.1 (-12.2)	20.0 (-6.7)	26.0 (-3.3)	32.7 (0.4)	37.4 (3.0)	36.1 (2.3)	27.4 (-2.6)	15.1 (-9.4)	5.0 (-15.0)	-6.6 (-21.4)	-18.0 (-27.8)
Record low °F (°C)	-38 (-39)	-36 (-38)	-29 (-34)	-5 (-21)	17 (-8)	26 (-3)	30 (-1)	30 (-1)	7 (-14)	-4 (-20)	-22 (-30)	-35 (-37)	-38 (-39)
Average precipitation inches (mm)	1.33 (34)	0.97 (25)	1.09 (28)	1.24 (31)	1.98 (50)	2.56 (65)	1.45 (37)	0.99 (25)	1.38 (35)	1.01 (26)	1.43 (36)	1.56 (40)	16.99 (432)
Average snowfall inches (cm)	12.7 (32)	7.9 (20)	5.7 (14)	2.2 (5.6)	0.2 (0.51)	0.3 (0.76)	0 (0)	0 (0)	trace	1.1 (2.8)	9.3 (24)	16.3 (41)	55.7 (141)
Average precipitation days (≥ 0.01 in)	13.7	10.8	11.8	10.7	12.4	12.5	7.7	7.3	8.2	9.3	13.0	14.4	131.8
Average snowy days (≥ 0.1 in)	10.5	7.7	5.2	2.7	0.3	0.1	0	0	0	1.2	7.4	11.8	46.9

Source: NOAA,<sup>[20][21]</sup>

Figure 2-NOAA Weather Data for Kalispell, MT.

#### 4. Release or Threatened Release into the Environment of a Hazardous Substance, or Pollutant or Contaminant

The known contaminants of concern at the Site are PAHs, xylene, naphthalene, and ethylbenzene, which are hazardous substances as defined by Section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). There has been a release of these hazardous substances in the form of both the abandoned tanks, and the direct leaking of their contents on to the ground. Based on the MDEQ inspections it is estimated that the tanks contain a total of between 50,000 to 100,000 gallons of the purported “tack oil.” As the tanks continue to deteriorate from weather, vandalism, and structural degradation, there is a threat of a catastrophic failure of one or more of the tanks. In addition, because of its physical setting, it is possible if one of the fence posts holding up the largest tank collapses, the tank itself will roll onto West Valley Drive and break open. Montana, like much of the Mountain West, has also seen an increase in wildfires. For example, during the August 2022 RSI the “Elmo Fire” burned over 20,000 acres within 15 miles of the Site (see <https://inciweb.nwcg.gov/incident/8289>). A wildfire through this area could potentially cause the release of the entirety of the contents of the tanks.

A brief discussion of the harmful effects of the hazardous substances identified at the Site is provided herein:

### **PAHs**

Polycyclic aromatic hydrocarbons (PAHs) are a group of over 100 different chemicals that are formed during the incomplete burning of coal, oil and gas, garbage, or other organic substances like tobacco or charbroiled meat. PAHs are usually found as a mixture containing two or more of these compounds, such as soot.<sup>1</sup>

#### *Health impacts*

Mice that were fed high levels of one PAH during pregnancy had difficulty reproducing and so did their offspring. These offspring also had higher rates of birth defects and lower body weights. It is not known whether these effects occur in people. Animal studies have also shown that PAHs can cause harmful effects on the skin, body fluids, and ability to fight disease after both short- and long-term exposure. But these effects have not been seen in people. The Department of Health and Human Services (DHHS) has determined that some PAHs may reasonably be expected to be carcinogens. Some people who have breathed or touched mixtures of PAHs and other chemicals for long periods of time have developed cancer. Some PAHs have caused cancer in laboratory animals when they breathed air containing them (lung cancer), ingested them in food (stomach cancer), or had them applied to their skin (skin cancer).<sup>2</sup> In humans, occupational exposure to complex mixtures containing PAHs has been strongly associated with lung cancer, bladder cancer, and modestly to breast cancer.<sup>3</sup>

The formation of DNA adducts (a segment of DNA bound to a cancer-causing chemical) is a key event in mutagenicity and carcinogenicity by PAHs. Several PAHs are mutagenic and genotoxic (mutations in cancer genes and DNA damage), and induce DNA adduct formation in vitro and in vivo; they generally be regarded as genotoxic carcinogens. PAHs also promote tumor development. The species that have developed tumors after exposure to PAHs include mice, rats, rabbits, hamsters and monkeys. Tumor induction is not restricted to the site of administration. After oral exposure to PAHs, tumors have been observed typically in the liver, forestomach, lungs and mammary glands. PAHs painted onto skin have caused skin papillomas and carcinomas but also lung and liver tumors.<sup>4</sup>

PAHs are immunotoxic and cause immunosuppression. PAHs are also teratogenic, an agent that can disturb the development of the embryo or fetus.; teratogens halt the pregnancy or produce a congenital malformation (a birth

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<sup>1</sup> Agency for Toxic Substances and Disease Registry (ATSDR). “Polycyclic Aromatic Hydrocarbons (PAHs) - ToxFAQs™” <https://www.atsdr.cdc.gov/toxfaqs/tfacts69.pdf>.

<sup>2</sup> *Ibid.*

<sup>3</sup> Choi H, Harrison R, Komulainen H, et al. Polycyclic aromatic hydrocarbons. In: WHO Guidelines for Indoor Air Quality: Selected Pollutants. Geneva: World Health Organization; 2010. 6. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK138709/>

<sup>4</sup> *Ibid.*

defect). Studies have shown prenatal exposure to particle-bound PAHs may increase the risk of bronchitis, asthma, and asthma like symptoms as well as a greater likelihood of cognitive development delay.<sup>5</sup>

#### *Environmental fate*

PAHs enter the air mostly as releases from volcanoes, forest fires, burning coal, and automobile exhaust. PAHs can occur in air attached to dust particles. Some PAH particles can readily evaporate into the air from soil or surface waters. PAHs can break down by reacting with sunlight and other chemicals in the air, over a period of days to weeks. PAHs enter water through discharges from industrial and wastewater treatment plants. Most PAHs do not dissolve easily in water. They stick to solid particles and settle to the bottoms of lakes or rivers. Microorganisms can break down PAHs in soil or water after a period of weeks to months. In soils, PAHs are most likely to stick tightly to particles; certain PAHs move through soil to contaminate underground water. PAH contents of plants and animals may be much higher than PAH contents of soil or water in which they live.<sup>6</sup>

Releases of PAHs to the atmosphere (volatilization) from freshly coal-tar-sealed pavement are tens of thousands of times higher than from unsealed pavement. Volatilization is a potential human-health concern because inhalation is an important pathway for human exposure to PAHs. Volatilization of sealed surfaces is highest just after application and decreases rapidly over the following weeks. Nonetheless, volatilization continues long after application—PAH releases to the atmosphere from parking lots sealed from 3 to 8 years prior to sampling were on average 60 times higher than PAH releases from unsealed pavement. The results suggest that PAH emissions from new coal-tar-based sealcoat applications each year nationwide (~1000 Mg) are larger than annual vehicle emissions of PAHs.<sup>7</sup>

#### *Aquatic life impacts*

Runoff from coal-tar-seal coated pavement is acutely toxic to aquatic biota. Exposure to runoff from coal-tar-sealed pavement collected as much as 42 days after sealcoat application resulted in 100 percent mortality to two commonly tested laboratory organisms: day-old fathead minnows and water fleas. In contrast, minnows and water fleas exposed to runoff from unsealed pavement experience no more than 10 percent mortality. When the minnows and water fleas were also exposed to simulated sunlight, which intensifies the toxicity of some PAHs, runoff collected 111 days (more than 3 months) after sealcoat application caused 100 percent mortality to both species and caused 100 percent mortality to water fleas even when diluted to 10 percent of its original strength. These results demonstrate that runoff from coal-tar-seal coated pavement continues to be toxic from aquatic organisms long after the 24- to 48-hour curing time. A subsequent collaborative study by researchers at the National Oceanic and Atmospheric

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<sup>5</sup> *Ibid.*

<sup>6</sup> Agency for Toxic Substances and Disease Registry (ATSDR). 1995. “[Polycyclic Aromatic Hydrocarbons \(PAHs\) - ToxFAQs™](https://www.atsdr.cdc.gov/toxfaqs/tfacts69.pdf)” <https://www.atsdr.cdc.gov/toxfaqs/tfacts69.pdf>.

<sup>7</sup> Water Resources. 2019. “Coal-Tar-Based Pavement Sealcoat, PAHs, and Environmental Health.” USGS. <https://www.usgs.gov/mission-areas/water-resources/science/coal-tar-based-pavement-sealcoat-pahs-and-environmental>. March.

Administration (NOAA), U.S. Fish and Wildlife Service, and University of Washington reported that coal-tar-sealcoat runoff is acutely lethal to juvenile coho salmon (*Oncorhynchus kisutch*) and causes a wide spectrum of abnormalities to zebrafish embryos. The study also reported that filtration of the runoff through a bioretention system substantially reduced toxicity.<sup>8</sup>

PAHs can be accumulated in aquatic organisms from water, sediments, and food. In fish and crustaceans Bioconcentration Factors have generally been reported in the range of 10-10,000. In general, bioconcentration was greater for the higher molecular weight compounds than for the lower molecular weight compounds. Fish and crustaceans readily assimilate PAHs from contaminated food, whereas mollusks and polychaete worms have limited assimilation. Biomagnification has not been reported because of the tendency of many aquatic organisms to eliminate these compounds rapidly. Sediment-associated PAHs can be accumulated by bottom-dwelling invertebrates and fish.<sup>9</sup> In some areas of the United States, fish consumption advisories have been issued based on elevated concentrations of PAHs found in locally caught fish or shellfish.<sup>10</sup>

#### *Summation*

PAHs cause cancer, mutations, birth defects, and/or death in fish, wildlife, and invertebrates. Several PAHs are photoactivated, meaning that their toxic effects are greatly intensified when exposed to sunlight. The EPA has classified seven PAHs as probable human carcinogens, and 16 PAHs as Priority Pollutants.<sup>11</sup>

#### **Xylene**

Scientists have found that the three forms of xylene have very similar effects on health. No health effects have been noted at the background levels that people are exposed to daily. Short-term exposure of people to high levels of xylene can cause irritation of the skin, eyes, nose, and throat; difficulty in breathing; impaired function of the lungs; delayed response to a visual stimulus; impaired memory; stomach discomfort; and possible changes in the liver and kidneys. Both short- and long-term exposure to high concentrations of xylene can also cause several effects on the nervous system, such as headaches, lack of muscle coordination, dizziness, confusion, and changes in one's sense of balance. Some people exposed to very high levels of xylene for a short period of time have died.<sup>12</sup> The mechanism of toxicity and interactions with endocrine system should be followed up, which is the main threat to human health.<sup>13</sup> Xylene may produce reproductive

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<sup>8</sup> *Ibid.*

<sup>9</sup> Agency for Toxic Substances and Disease Registry (ATSDR). 1995. "Toxicological Profile for Polycyclic Aromatic Hydrocarbons" <https://www.atsdr.cdc.gov/toxprofiles/tp69.pdf>. Pages 236-245

<sup>10</sup> Agency for Toxic Substances and Disease Registry (ATSDR). <https://www.atsdr.cdc.gov/toxprofiles/tp69.pdf>. Pages 286.

<sup>11</sup> Water Resources. 2019. "Coal-Tar-Based Pavement Sealcoat, PAHs, and Environmental Health." USGS. <https://www.usgs.gov/mission-areas/water-resources/science/coal-tar-based-pavement-sealcoat-pahs-and-environmental>. March.

<sup>12</sup> Agency for Toxic Substances and Disease Registry (ATSDR). 2007. "Toxicological Profile for Xylene." <https://www.atsdr.cdc.gov/toxprofiles/tp71.pdf>. Page 5. August.

<sup>13</sup> Niaz, Kamal. et al. 2005. "A review of environmental and occupational exposure to xylene and its health concerns." NIH. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4743476/>. November.

adverse effects; especially when exposures are chronic at low to high concentrations.<sup>14</sup>

Results of studies in animals indicate that large amounts of xylene can cause changes in the liver and harmful effects on the kidneys, lungs, heart, and nervous system. Short-term exposure to very high concentrations of xylene causes death in animals, as well as muscular spasms, incoordination, hearing loss, changes in behavior, changes in organ weights, and changes in enzyme activity. Animals that were exposed to xylene on their skin had irritation and inflammation of the skin. Long-term exposure of animals to low concentrations of xylene has not been well studied, but there is some information that long-term exposure of animals can cause harmful effects on the kidney (with oral exposure) or on the nervous system (with inhalation exposure).<sup>15</sup>

Information from animal studies is not adequate to determine whether xylene causes cancer in humans. Both the International Agency for Research on Cancer and EPA have found that there is insufficient information to determine whether xylene is carcinogenic and consider xylene not classifiable as to its human carcinogenicity.<sup>16</sup> Associations between occupational exposure to xylenes and increased risk of leukemia, non-Hodgkin's lymphoma, and cancer of the rectum, colon, or nervous system have been reported.<sup>17</sup> Lowengart et al. (1987) reported that children born to parents working in industries having xylene are at high risk for leukemia.<sup>18</sup>

#### *Environmental Fate*

The environmental fate of xylene has been well studied. After releasing into the environment xylene may be leached into groundwater and enter the human food chain.<sup>19</sup> Volatilization of xylene is the dominant fate process. Xylene also adsorbs to soils and sediments and leaches into groundwater. Biodegradation is likely to be the only significant degradation process for xylene in subsurface soils and aquatic systems. Additional data on the partitioning of xylene released to soil and on longevity and the rates of biotransformation in soils and sediments, are important to further define potential pathways of human exposure.<sup>20</sup>

#### *Aquatic life impacts*

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<sup>14</sup> Masekameni MD, Moolla R, Gulumian M, Brouwer D. Risk Assessment of Benzene, Toluene, Ethyl Benzene, and Xylene Concentrations from the Combustion of Coal in a Controlled Laboratory Environment. *Int J Environ Res Public Health*. 2018 Dec 31;16(1):95. doi: 10.3390/ijerph16010095. PMID: 30602669; PMCID: PMC6339150.

<sup>15</sup> Agency for Toxic Substances and Disease Registry (ATSDR). 2007. "Toxicological Profile for Xylene." <https://www.atsdr.cdc.gov/toxprofiles/tp71.pdf>. Page 6. August.

<sup>16</sup> *Ibid.*

<sup>17</sup> IRIS. "Xylenes: CASRN 1330-20-7." [https://iris.epa.gov/static/pdfs/0270\\_summary.pdf](https://iris.epa.gov/static/pdfs/0270_summary.pdf). Page 21.

<sup>18</sup> Niaz, Kamal. et al. 2005. "A review of environmental and occupational exposure to xylene and its health concerns." NIH. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4743476/>. November.

<sup>19</sup> *Ibid.*

<sup>20</sup> Agency for Toxic Substances and Disease Registry (ATSDR).2007. "Toxicological Profile for Xylene." <https://www.atsdr.cdc.gov/toxprofiles/tp71.pdf>. Page 255. August.

Xylenes are bioconcentrated in aquatic organisms to a limited extent. The degree of concentration is believed to be limited by the rapid metabolism and excretion of xylene from some aquatic species. However, additional data on the bioconcentration of xylene by aquatic organisms from contaminated surface waters and sediments would be useful. No information was found in the literature regarding the bioconcentration of xylene in plants or biomagnification of xylene among food chain trophic levels. Although bioconcentration has been predicted for all isomers of xylene because of their tendency to partition into the octanol phase of the octanol-water system, the rapid oxidation of xylene during metabolism seems to preclude bioconcentration in higher animal systems. Thus, biomagnification is not expected to be important for xylene. However, data on the bioaccumulation of xylene in commercially important fish and shellfish are needed since consumption of contaminated fish and shellfish may be a potential source of human exposure.<sup>21</sup>

### **Naphthalene**

Naphthalene is produced from coal tar fractions by distillation and crystallization. The major constituent of creosote, used for timber impregnation, is naphthalene and its alkyl homologues.<sup>22</sup> It is the most abundant single constituent of coal tar.<sup>23</sup>

#### *Health impacts*

Human health hazards of concern from exposure to naphthalene include hemolytic anemia, cataracts, and respiratory toxicity towards the respiratory tract (both noncancer and cancer effects). Available data are inadequate to establish a causal association between exposure to naphthalene and cancer in humans; however naphthalene is a component of several complex mixtures associated with human cancer, including tobacco smoke and emissions from coal and wood combustion that have caused laryngeal carcinomas, epipharyngeal cancer, nasal carcinoma as well as colorectal cancer,<sup>24</sup> and household use of mothballs increased the risk of non-Hodgkin's Lymphoma<sup>25</sup>; however, exposure of humans to naphthalene alone has not been studied for an association with the occurrence of cancer.<sup>26</sup>

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<sup>21</sup> Agency for Toxic Substances and Disease Registry (ATSDR). 2007. "Toxicological Profile for Xylene." <https://www.atsdr.cdc.gov/toxprofiles/tp71.pdf>. Page 255.

<sup>22</sup> Choi H, Harrison R, Komulainen H, et al. Polycyclic aromatic hydrocarbons. In: WHO Guidelines for Indoor Air Quality: Selected Pollutants. Geneva: World Health Organization; 2010. 6. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK138709/>

<sup>23</sup> U.S. EPA 1980. "Ambient Water Quality Criteria for Naphthalene." <https://www.epa.gov/sites/default/files/2019-03/documents/ambient-wqc-naphthalene-1980.pdf>.

<sup>24</sup> Agency for Toxic Substances and Disease Registry (ATSDR).. 2005. "Toxicological Profile for Naphthalene, 1-Methylnaphthalene, and 2-Methylnaphthalene." <https://www.atsdr.cdc.gov/toxprofiles/tp67.pdf>

<sup>25</sup> Choi H, Harrison R, Komulainen H, et al. Polycyclic aromatic hydrocarbons. In: WHO Guidelines for Indoor Air Quality: Selected Pollutants. Geneva: World Health Organization; 2010. 6. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK138709/>

<sup>26</sup> U.S. EPA. 1998. "Toxicological Review of Naphthalene." [https://cfpub.epa.gov/ncea/iris/iris\\_documents/documents/toxreviews/0436tr.pdf](https://cfpub.epa.gov/ncea/iris/iris_documents/documents/toxreviews/0436tr.pdf). Pages 25-.34, 40. August.

In animals, nasal and pulmonary effects are identified as the critical effects from chronic inhalation exposure to naphthalene. Weight decreases, depression of the central nervous system, organ weight changes, and fetal developmental toxicity have also been observed in animals after subacute or subchronic oral exposure.<sup>27</sup> When mice or rats breathed in naphthalene vapors daily throughout their lives (2 years), cells in the lining of their noses or lungs were damaged. Some exposed female mice also developed lung tumors. Some exposed male and female rats developed nose tumors. When mice or rats were fed naphthalene in their food for 13 weeks, no tumors or other tissue changes were found. The only effect found was decreased body weight in rats that were fed naphthalene. Based on these results from animal studies, the U.S. Department of Health and Human Services concluded that naphthalene is reasonably anticipated to be a human carcinogen. The International Agency for Research on Cancer concluded that naphthalene is possibly carcinogenic to humans because there is enough evidence that naphthalene causes cancer in animals, but not enough evidence about such an effect in humans. Under the EPA 1986 cancer guidelines, naphthalene was assigned to Group C – possible human carcinogen.<sup>28</sup>

#### *Environmental Fate*

Direct releases to the air account for more than 90% of the naphthalene entering environmental media. The primary discharge source is residential combustion of wood and fossil fuels. A small fraction (less than 10%) of naphthalene in water will be associated with particulate matter and will settle into sediments. Naphthalene that remains in surface water will be degraded through photolysis and biodegradation processes. Naphthalene undergoing photolysis has a half-life of about 71 hours. Biodegradation of this chemical also occurs quite rapidly, although degradation time will vary with naphthalene concentration, water temperature, and the availability of nutrients. Based on this value, significant bioaccumulation of naphthalene in the food-chain is not expected to occur.<sup>29</sup>

#### *Aquatic life impacts*

The available data for naphthalene indicate that acute and chronic toxicity to freshwater aquatic life occur at concentrations as low as 2,300 and 620  $\mu\text{g/l}$ , respectively, and would occur at lower concentrations among species that are more sensitive than those tested.<sup>30</sup>

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<sup>27</sup> U.S. EPA. 1998. “Toxicological Review of Naphthalene.”

[https://cfpub.epa.gov/ncea/iris/iris\\_documents/documents/toxreviews/0436tr.pdf](https://cfpub.epa.gov/ncea/iris/iris_documents/documents/toxreviews/0436tr.pdf). Pages 10-32. August.

<sup>28</sup> Agency for Toxic Substances and Disease Registry (ATSDR). 2005. “Public Health Statement for Naphthalene, 1-Methylnaphthalene, and 2-Methylnaphthalene.”

<https://www.atsdr.cdc.gov/ToxProfiles/tp67-c1-b.pdf>.

<sup>29</sup> U.S. EPA. 2003. “Health Effects Support Document for Naphthalene.”

[https://www.epa.gov/sites/default/files/2014-09/documents/support\\_cc1\\_naphthalene\\_healtheffects.pdf](https://www.epa.gov/sites/default/files/2014-09/documents/support_cc1_naphthalene_healtheffects.pdf). 9-9. February.

<sup>30</sup> U.S. EPA 1980. “Ambient Water Quality Criteria for Naphthalene.”

<https://www.epa.gov/sites/default/files/2019-03/documents/ambient-wqc-naphthalene-1980.pdf>.

## Ethylbenzene

Exposure to high levels of ethylbenzene in air for short periods can cause eye and throat irritation. Exposure to higher levels can result in dizziness. Irreversible damage to the inner ear and hearing has been observed in animals exposed to relatively low concentrations of ethylbenzene for several days to weeks. Exposure to relatively low concentrations of ethylbenzene in air for several months to years causes kidney damage in animals. The International Agency for Research on Cancer (IARC) has determined that ethylbenzene is a possible human carcinogen, Group 2B. Benzene and ethylbenzene exposure is linked with an increased risk of leukemia and hematopoietic cancers.<sup>31</sup> There are no studies evaluating the effects of ethylbenzene exposure on children or immature animals. It is likely that children would have the same health effects as adults. It is not known whether children would be more sensitive than adults to the effects of ethylbenzene. It is not known if ethylbenzene will cause birth defects in humans. Minor birth defects, including increased skeletal variations and decreases in growth, have occurred in newborn animals whose mothers were exposed to ethylbenzene in air during pregnancy.<sup>32,33</sup>

### *Environmental Fate*

Ethylbenzene is primarily partitioned to and transported in air. The partitioning and transport processes in water, soil, and aquatic life are also well characterized. In surface water, most of the ethylbenzene will evaporate. The remaining ethylbenzene is broken down through photooxidation and biodegradation. Ethylbenzene is moderately mobile and biodegrades in soil.<sup>34</sup> Limited data suggests that ethylbenzene does not bioconcentrate in aquatic organisms and is not likely to bioaccumulate in aquatic or terrestrial food chains. However, little information on food residues in commercially important fish and shellfish species is currently available. Additional monitoring data regarding the levels of ethylbenzene would be helpful for several commercially important fish and shellfish species.<sup>35</sup>

### *Aquatic life impacts*

The available data for ethylbenzene indicate that acute toxicity to freshwater aquatic life occurs at concentrations as low as 32,000 µg/l and would occur at lower concentrations among species that are more sensitive than those tested.<sup>36</sup>

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<sup>31</sup> Masekameni MD, Moolla R, Gulumian M, Brouwer D. Risk Assessment of Benzene, Toluene, Ethyl Benzene, and Xylene Concentrations from the Combustion of Coal in a Controlled Laboratory Environment. *Int J Environ Res Public Health*. 2018 Dec 31;16(1):95. doi: 10.3390/ijerph16010095. PMID: 30602669; PMCID: PMC6339150.

<sup>32</sup> Agency for Toxic Substances and Disease Registry (ATSDR). “ToxFAQs™ for Ethylbenzene.” <https://www.cdc.gov/TSP/ToxFAQs/ToxFAQsDetails.aspx?faqid=382&toxid=66>.

<sup>33</sup> Agency for Toxic Substances and Disease Registry (ATSDR). “ToxGuide.” <https://www.atsdr.cdc.gov/toxguides/toxguide-110.pdf>.

<sup>34</sup> *Ibid.*

<sup>35</sup> Agency for Toxic Substances and Disease Registry (ATSDR). 2010. “Toxicological Profile for Ethylbenzene.” <https://www.atsdr.cdc.gov/ToxProfiles/tp110.pdf>. Pages 195-196,

<sup>36</sup> U.S. EPA. 1980. “Ambient Water Quality Criteria for Ethylbenzene.” <https://www.epa.gov/sites/default/files/2019-03/documents/ambient-wqc-ethylbenzene-1980.pdf>.

**5. NPL Status**

This Site is not on the NPL, nor is it currently proposed for inclusion on the NPL.

**6. Maps, Pictures and Other Graphic Representations**

A Site Map is provided in Attachment 1. Site Photos are provided in Attachment 2.

**B. Other Actions to Date**

**1. Previous Actions**

There are no previous EPA actions on the Site.

**2. Current Actions**

There are no current activities on the Site.

**C. State and Local Authorities' Roles**

**1. State and Local Actions to Date**

The MDEQ and Flathead County have made numerous unsuccessful attempts to contact the Property owner regarding the Property. Neither the state nor the local authorities have taken actions to remediate the Site.

**2. Potential for Continued State/Tribal/Local Response**

Neither the state, county, nor the municipality has sufficient resources to complete the cleanup at this Site in a timely fashion.

**III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES**

Conditions at the Site present a threat to public health and the environment and meet the criteria for initiating a removal action under 40 CFR 300.415(b)(2) of the NCP. EPA has considered all the criteria under 40 CFR 300.415(b)(2) for each of the properties and have determined the following five criteria apply to the property.

“(i) Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, or pollutants or contaminants:”

The Site is adjacent to and offers relatively unfettered access to the nearby residential properties in the area. Though partially fenced, there is ample evidence of direct human contact with the Site is taking place on a regular basis. The hazardous substances found within the abandoned tanks and being spilled onto the ground pose a direct threat to public health and welfare

because children, trespassers, and other community members could be exposed to them. There are no adequate access restrictions at the Site to prevent community members from accessing the Site and encountering potential exposure to the hazardous substances. In addition, because there does not appear to be any regular maintenance of the facility there is a possibility of a catastrophic release of the entire contents of one or more of the tanks. This would not only affect the nearby population, but also impact the watershed leading to Ashley Creek and the Flathead River.

“(iii) Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers that may pose a threat of release.”

Based on the MDEQ and Flathead County enforcement investigations and efforts, it appears that the eleven tanks found on the property may have been abandoned there for over 20 years. These tanks have been shown to contain CERCLA hazardous substances, including PAHs, xylene, ethylbenzene, and naphthalene. These tanks are deteriorating over time and have already begun to leak. Their condition will not improve over time, and the leaks will get worse.

“(iv) High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate:”

As can be seen in numerous Site photos provided by MDEQ and taken by the EPA, there have already been leaks of the material to the ground in and around the Site. EPA’s sample was collected in the public right-of-way along West Valley Drive. As the leaks continue, these releases to the drainage paths will continue to move downhill toward the nearby residential properties and Ashley Creek.

“(v) Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released:”

The climate in Kalispell provides a wide range of temperature fluctuations, including several freeze/thaw cycles each year. These will accelerate the degradation of the tanks. Snow and snowmelt will also tend to exacerbate the migration of the contaminants in, around, and off the Site. Also, the threat of a grass or wildfire in the area could result in the catastrophic failure of all the tanks found on-site.

“(vii) The availability of other appropriate federal or state mechanisms to respond to the release:”

Both the MDEQ and Flathead County have exhausted their enforcement efforts. No other local, state, or federal agency is in the position or has the resources to independently implement a timely, effective response action to address the ongoing threat presented by the Site.

#### **IV. PROPOSED ACTIONS AND ESTIMATED COSTS**

##### **A. Proposed Actions**

##### **1. Proposed Action Description**

EPA intends to start work on September 15, 2022, following this outline of work:

- i. Performing site preparations.
- ii. Inspecting and assessing property conditions.
- iii. Inspecting and obtaining samples and analysis from the tanks and the surrounding area, including soil, surface water, and groundwater, as needed.
- iv. Removing and recycling and/or disposing of the contents of the tanks.
- v. Recycling and/or disposing of the tanks and debris.
- vi. Excavating and removing any contaminated soils and materials.
- vii. Restoring disturbed areas.

## 2. Contribution to Remedial Performance

This effort will, to the extent practical, contribute to any future remedial effort at the property. However, no remedial action is anticipated at this time.

## 3. Engineering Evaluation/Cost Analysis (EE/CA)

An EE/CA is not required for a time-critical removal action.

## 4. Applicable or Relevant and Appropriate Requirements (ARARs)

Emergency response actions conducted under CERCLA are required, to the extent practicable considering the exigencies of the situation, to attain ARARs. EPA OSC has requested ARARs from the State of MDEQ. In accordance with the NCP, all ARARs for the Site will be attained to the extent practicable given the scope of the project and the urgency of the situation.

## 5. Project Schedule

The removal action is anticipated to begin on September 15, 2022. All removal activities should be completed by November 30, 2022, which is the date the Administrative Warrant for Access and Entry will expire. EPA will return to the Court if an extension is necessary.

### B. Estimated Costs\*

	<b>Estimated Costs</b>
ERRS contractor	\$850,000
START Contractor	\$90,000
SUBTOTAL	\$940,000
Contingency Costs (20 % of subtotal)	\$188,000
<b>Total Removal Project Ceiling</b>	<b>\$1,128,000</b>

\*EPA direct and indirect costs, although cost recoverable, do not count toward the removal ceiling for this removal action. Liable parties may be held financially responsible for costs incurred by the EPA as set forth in Section 107 of CERCLA.

## V. 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 and/or the environment associated with the release of PAHs, xylene, ethylbenzene, and naphthalene from the Site.

**VI. OUTSTANDING POLICY ISSUES**

None. No further actions are required at the Site following the completion of this emergency removal action.

**VII. ENFORCEMENT**

A separate Enforcement Addendum has been prepared providing a confidential summary of potential enforcement activities.

**VIII. RECOMMENDATIONS**

This decision document represents the selected removal action for the Valley Drive Abandoned Slurry Site, in the City of Kalispell, Flathead County, Montana, developed in accordance with CERCLA, as amended, and is not inconsistent with the NCP. This decision is based on the administrative record for the Site.

Conditions at the Site meet the NCP section 300.415(b) criteria for a removal action, and I recommend your approval of the proposed removal action. The total project ceiling, if approved, will be \$1,128,000; this amount will be funded from the Regional removal allowance.

APPROVE

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Betsy Smidinger, Director  
Superfund and Emergency Management Division

Date

DISAPPROVE

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Betsy Smidinger, Director  
Superfund and Emergency Management Division

Date

## Footnotes

1. Agency for Toxic Substances and Disease Registry (ATSDR). “Polycyclic Aromatic Hydrocarbons (PAHs) - ToxFAQs™” <https://www.atsdr.cdc.gov/toxfaqs/tfacts69.pdf>.
2. *Ibid.*
3. Choi H, Harrison R, Komulainen H, et al. Polycyclic aromatic hydrocarbons. In: WHO Guidelines for Indoor Air Quality: Selected Pollutants. Geneva: World Health Organization; 2010. 6. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK138709/>
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16. Agency for Toxic Substances and Disease Registry (ATSDR). 2007. “Toxicological Profile for Xylene.” <https://www.atsdr.cdc.gov/toxprofiles/tp71.pdf>. Page 6. August.
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<https://www.atsdr.cdc.gov/ToxProfiles/tp67-c1-b.pdf>.

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[https://www.epa.gov/sites/default/files/2014-](https://www.epa.gov/sites/default/files/2014-09/documents/support_cc1_naphthalene_healtheffects.pdf)

[09/documents/support\\_cc1\\_naphthalene\\_healtheffects.pdf](https://www.epa.gov/sites/default/files/2014-09/documents/support_cc1_naphthalene_healtheffects.pdf). 9-9. February.

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<https://www.atsdr.cdc.gov/toxguides/toxguide-110.pdf>.

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35. U.S. EPA. 1980. "Ambient Water Quality Criteria for Ethylbenzene."

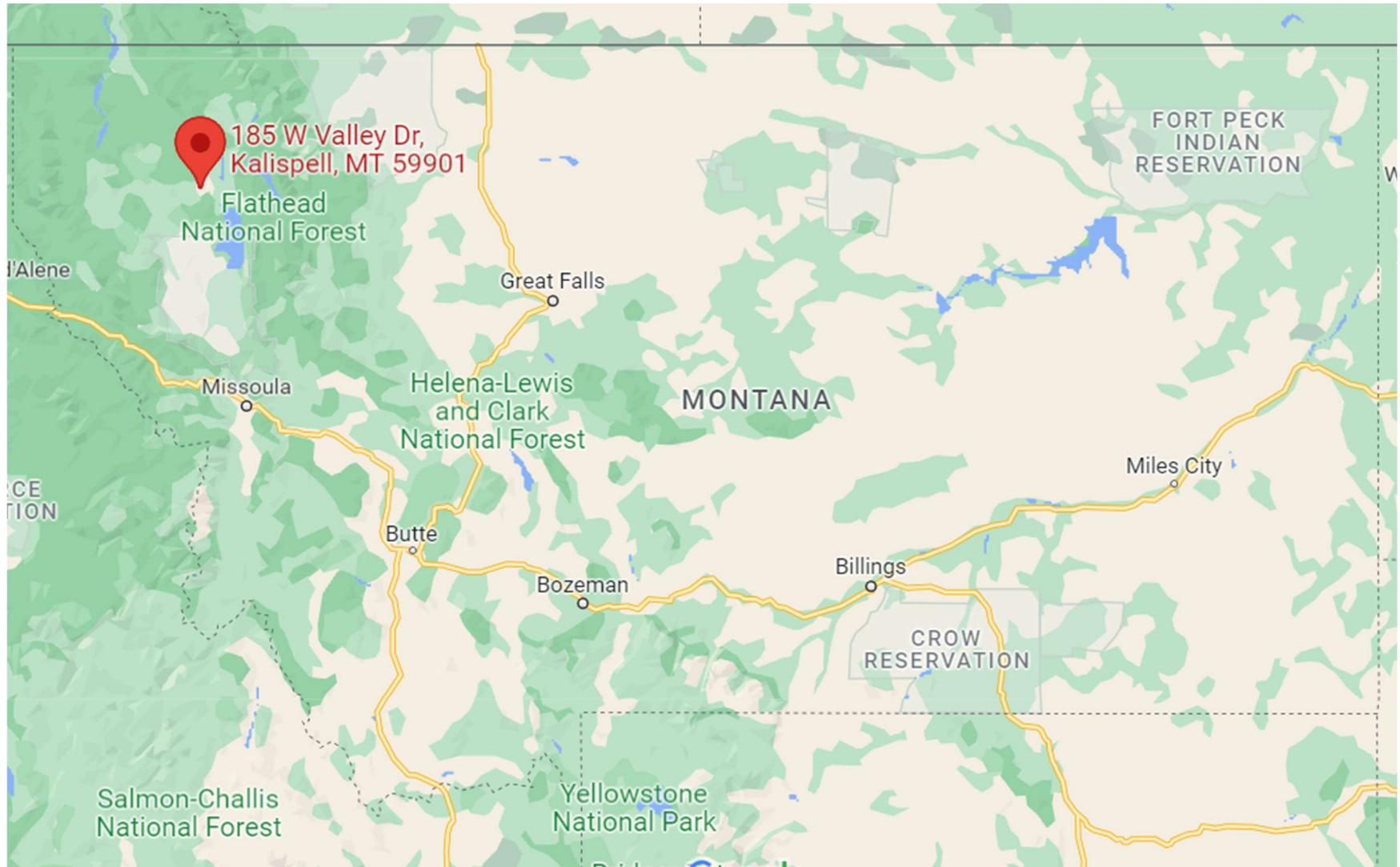
<https://www.epa.gov/sites/default/files/2019-03/documents/ambient-wqc-ethylbenzene-1980.pdf>.

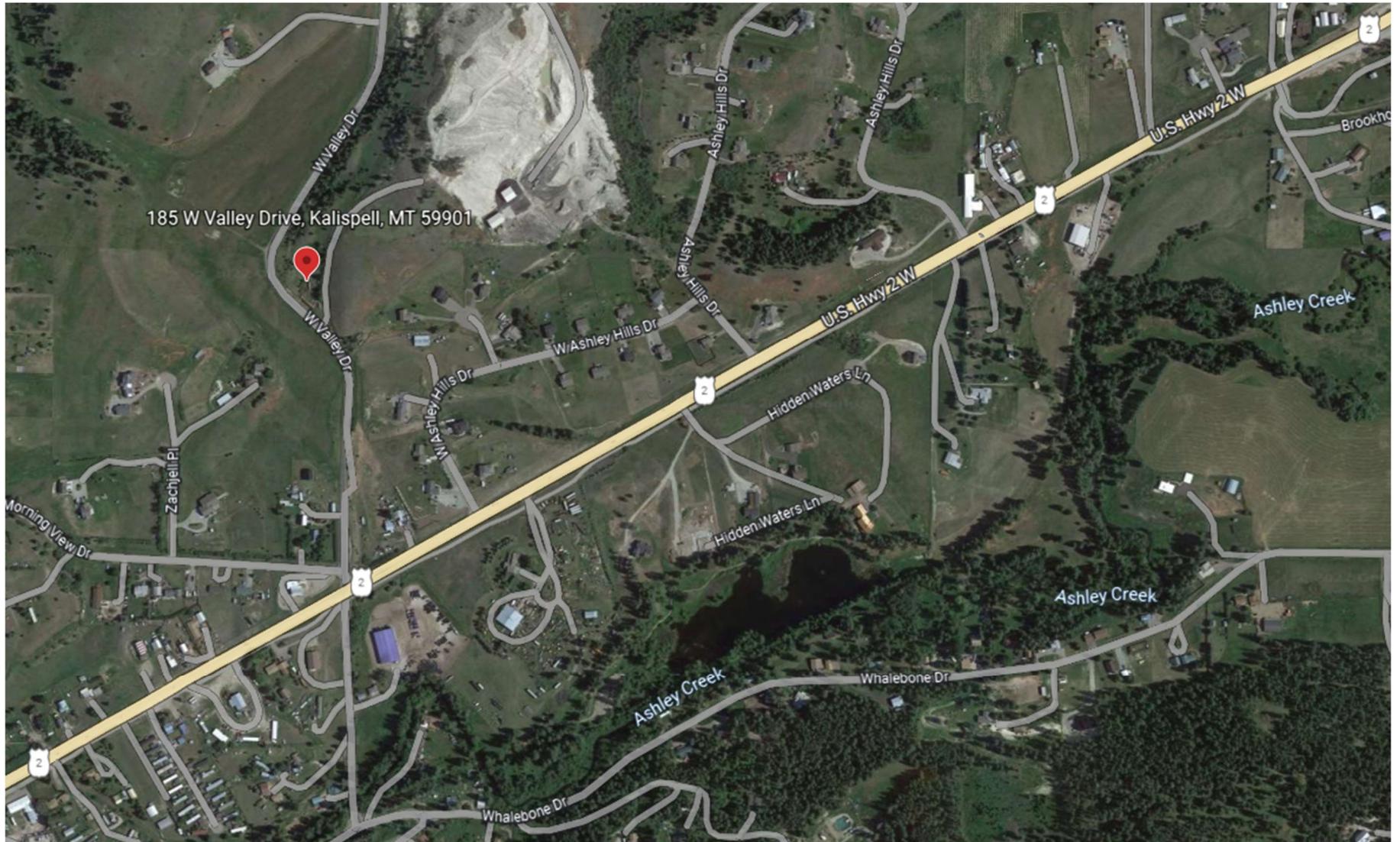
## Attachments:

Attachment 1: Site Map

Attachment 2: Site Photos

**Attachment 1**  
**Site Map**





**Attachment 2**  
**Site Photos**

# Valley Drive Abandoned Slurry

## Photo Log

Description: View of discarded refrigerators and appliances located on the site. Facing southeast

Category: Assessment Latitude: 48.1926319444444

Date Taken: 8/3/2022 Longitude: -114.396375916667

Tags:



Description: View of site facing southeast

Category: Assessment Latitude: 48.1926404166667

Date Taken: 8/3/2022 Longitude: -114.396402194444

Tags:



Description: View of the tank on site that has released or discharged hydrocarbon product into the right a way drainage pathway along West Valley Drive. Facing northeast

Category: Assessment Latitude: 48.1923925416667

Date Taken: 8/3/2022 Longitude: -114.396236972222

Tags:



Description: View of site facing northwest.

Category: Assessment Latitude: 48.1923347777778

Date Taken: 8/3/2022 Longitude: -114.395934444444

Tags:

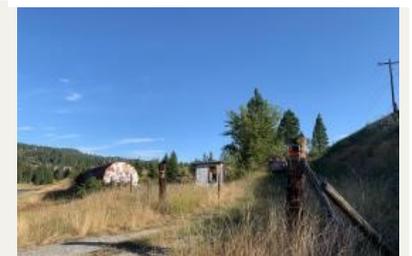


Description: View of site facing north

Category: Assessment Latitude: 48.1922294444444

Date Taken: 8/3/2022 Longitude: -114.395782222222

Tags:



# Valley Drive Abandoned Slurry

## Photo Log

Description: View of tanks located on the northern portion of the site. Facing east

Category: Assessment Latitude: 48.1925963888889

Date Taken: 8/2/2022 Longitude: -114.396402222222

Tags:



Description: View of the right a way drainage pathway along the southwest property line. Facing southeast

Category: Assessment Latitude: 48.1925821277778

Date Taken: 8/2/2022 Longitude: -114.396454722222

Tags:



Description: View of the pathway that the hydrocarbon product that has been released or discharged from a tank into the right a way drainage pathway along West Valley Drive. Facing East

Category: Assessment Latitude: 48.1923773611111

Date Taken: 8/2/2022 Longitude: -114.396073611111

Tags:



Description: Close up view of the hydrocarbon product that has been released or discharged from a tank into the right a way drainage pathway along West Valley Drive.

Category: Assessment Latitude: 48.1923831666667

Date Taken: 8/2/2022 Longitude: -114.396062055556

Tags:



# Valley Drive Abandoned Slurry

## Photo Log

Description: View of the hydrocarbon product that has been released or discharged from a tank into the right a way drainage pathway along West Valley Drive.

Category: Assessment

Latitude: 48.1923879583333

Date Taken: 8/2/2022

Longitude: -114.396068916667

Tags:



Description: View of the site facing northeast

Category: Assessment

Latitude: 48.1922372055556

Date Taken: 8/2/2022

Longitude: -114.396014555556

Tags:



Description: View of the site facing North

Category: Assessment

Latitude: 48.1921307111111

Date Taken: 8/2/2022

Longitude: -114.395788555556

Tags:



Description: Image of Site received by EPA on July 14, 2022 from party who reported the incident to the NRC.

Category: 00 Initial Report

Latitude:

Date Taken: 7/14/2022

Longitude:

Tags:



Description: Image of Site received by EPA on July 14, 2022 from party who reported the incident to the NRC.

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