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| Minnesota Pollution Control Agency (MPCA), 520 Lafayette Road North, St. Paul, MN 55155-4194 | Corrective action  excavation report worksheet  Petroleum Remediation Program  Guidance document 3-02a  Doc Type: General Excavation Report Worksheet |

Instructions:Do not revise or delete text or questions contained in this report.

Complete this report to document excavation and treatment or disposal of petroleum-contaminated soil removed in response to a [recent release](https://www.pca.state.mn.us/sites/default/files/c-prp2-04.pdf), after surface soil excavation, or as a Minnesota Pollution Control Agency (MPCA) approved corrective action. Conduct soil excavation activities in accordance with [Excavation of petroleum-contaminated soil and tank removal sampling](https://www.pca.state.mn.us/sites/default/files/c-prp3-01.pdf).

Do not complete this report to document petroleum-contaminated soil excavated as part of underground or aboveground tank system removal, closure, and/or upgrade activities where an identified petroleum release has occurred, and a MPCA leak site ID has been issued. Instead, complete the [General excavation report worksheet](https://www.pca.state.mn.us/sites/default/files/c-prp3-02.doc).

**Note:** All documents with hyperlinks in this form are available on the MPCA’s Cleanup guidance website at <https://www.pca.state.mn.us/waste/cleanup-guidance>.

|  |  |  |  |
| --- | --- | --- | --- |
| **MPCA Site ID:** | LS00 | **Date (mm/dd/yyyy):** |  |

Responsible party information

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Individual or corporate name: | | | |  | | | | | |
| Mailing address: | | |  | | | | | | |
| City: |  | | | | | State: |  | Zip code: |  |
| Email: | |  | | | | | | Phone: |  |
| Alternative contact name (if any): | | | | |  | | | Phone: |  |

Leak site information

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Name: | |  | | | | | Phone: |  | |
| Leak site address: | | | |  | | | | | |
| City: |  | | | | State: |  | Zip code: | |  |
| County: | | |  | |  | | | | |

Excavation contractor

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Company name: | | | |  | | | | |
| Contact name: | | |  | | | | | |
| Mailing address: | | | |  | | | | |
| City: |  | | | | State: |  | Zip code: |  |
| Email: | |  | | | | Phone: |  | |

Environmental professional information

*By signing this document, I/we acknowledge that we are submitting this document on behalf of and as agents of the responsible person or volunteer for this leak site. I/we acknowledge that if information in this document is inaccurate or incomplete, it will delay the completion of remediation and may harm the environment and may result in a reduction in Petrofund reimbursement. In addition, I/we acknowledge on behalf of the responsible person or volunteer for this leak site that if this document is determined to contain a false material statement, representation, or certification, or if it omits material information, the responsible person or volunteer may be found to be in violation of Minn. Stat. § 115.075 or Minn. R. 7000.0300 (Duty of Candor), and that the responsible person or volunteer may be liable for civil penalties.*

***By typing/signing my name below,*** *I certify the above statements to be true and correct, to the best of my knowledge, and that this information can be used for the purpose of processing this form.*

**Signatures**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Report author(s)** | | | |  | **Report reviewer(s)** | | | |
| Signature: | |  | |  | Signature: | |  | |
|  | | *(This document has been electronically signed.)* | |  |  | | *(This document has been electronically signed.)* | |
| Title: |  | | |  | Title: |  | | |
| Date (mm/dd/yyyy): | | |  |  | Date (mm/dd/yyyy): | | |  |
| Signature: | |  | |  | Signature: | |  | |
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| Title: |  | | |  | Title: |  | | |
| Date (mm/dd/yyyy): | | |  |  | Date (mm/dd/yyyy): | | |  |

|  |  |
| --- | --- |
| Name(s) of field technician(s): |  |

**Company information:**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Name: | |  | | | | | Phone: | |  |
| Mailing address: | | |  | | | | | | |
| City: |  | | | State: |  | Zip code: | |  | |

**Project manager information:**

|  |  |  |  |
| --- | --- | --- | --- |
| Name: |  | | |
| Phone: |  | Email: |  |

Section 1: Corrective action information

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Double click checkboxes to select *Checked* and select *OK*.** | | | | | | | | | | | |
| A. What type(s) of petroleum product released, if known? | | | | | | | | | | | |
|  | Gasoline, unleaded | Diesel | | Motor oil | | | | E85 | | Aviation gas | |
|  | Gasoline, leaded | Fuel oil #1 & #2 | | Used oil | | | | Kerosene | | Jet fuel | |
|  | Gasoline, type unknown | Fuel oil #4 & #6 | | Waste oil | | | | Hydraulic fluid | | Unknown | |
| B. Volume of release, if known: | | |  | | gallons | | | | | |
| C. Was the corrective action excavation for contaminated surface soil only? | | | | | | | Yes  No | | | | |
| D. Was this corrective action completed in response to an emergency, or to a recent release according to [Recent releases at petroleum tank sites](https://www.pca.state.mn.us/sites/default/files/c-prp2-04.pdf)?  Yes  No | | | | | | | | | | | |
| 1. If no, list the title, date, and author (name and affiliation) of the previously submitted [report](https://www.pca.state.mn.us/sites/default/files/c-prp7-07b.docx) that proposed the soil excavation corrective action design (CAD), if present. | | | | | | | | | | | |
|  | | | | | | | | | | | |
| 2. Date the soil excavation CAD was proposed (mm/dd/yyyy): | | | | | |  | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 3. Date the soil excavation CAD was modified and/or approved by the MPCA (mm/dd/yyyy): | | | |  | | | |
| 1. MPCA staff person who approved it: |  | | | | | | |
| E. List the **in-place** volume of contaminated soil originally approved by the MPCA for removal and treatment: | | | | | |  | cubic yards | |
| F. Total **in-place** volume of contaminated soil actually removed for treatment: | |  | cubic yards | |
| G. If the approved volume (item E) is different than the volume actually removed (item F), discuss the circumstances under which this occurred, including whether MPCA approval was given for this difference. | | | | | | | |
|  | | | | | | | |
| 1. If granted approval, provide the name of the MPCA staff who granted approval, the approval date, and the means by which it was received. | | | | | | | |
|  | | | | | | | |

Section 2: Excavation information

|  |  |  |
| --- | --- | --- |
| A. | **Dates site work performed.** Provide a chronological list of excavation tasks and site work completed, such as site preparation, pre-excavation sampling, dewatering, soil excavation activities, final excavation sampling, stockpile sampling, contaminated soil loading and hauling, soil treatment, backfilling, and site restoration, etc. and the dates or time periods each task was performed. To add additional rows, press *tab*. | |
|  | **Work performed** | **Date** (mm/dd/yyyy) |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| B. List name and title of others on-site during site work, such as the fire marshal, local officials, MPCA staff. | | |
|  | | |
| C. Discuss the site work performed, including whether any problems or unexpected outcomes were encountered during CAD implementation. | | |
|  | | |
| D. Dimensions of excavation zone(s). Include excavation boundaries in Figure 3. If multiple zones were dug, reference each zone separately. To add additional rows, press *tab*. | | |
| |  |  |  |  | | --- | --- | --- | --- | | **Zone** (#1, #2, etc.) | **Length** (ft) | **Width** (ft) | **Depth** (ft) | |  |  |  |  | |  |  |  |  | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| E. Provide calculations differentiating the total in-place volume of soil excavated into uncontaminated or contaminated soil, such as overburden versus that removed for treatment. If there are multiple pits, show calculations for each pit separately. The calculations must be consistent with the detailed excavation map (Figure 3) showing the final excavation extent(s) and depth contours. | | | | | | |
|  | | | | | | |
| F. Discuss the management of uncontaminated soil (overburden) and its final endpoint. If used as excavation backfill, describe where and at what depth it was placed. | | | | | | |
|  | | | | | | |
| G. Backfill material (sand, gravel, etc.): | | |  | |  | |
| H. Native soil type (clay, sand, etc.): | |  | | |
| I. Did petroleum saturated or grossly contaminated soil remain after the excavation? | | | | Yes  No | | |
| If any remained, explain why: |  | | | | |
| J. Discuss how groundwater affected excavation activities. If dewatering occurred, discuss the planning, method, timing, total volume removed (gallons), and results of dewatering activities. Discuss transport, treatment, disposal, and permits obtained for managing removed water. | | | | | | |
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Section 3: Sampling information

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| --- |
| A. Describe the field screening methods used to distinguish contaminated from uncontaminated soil. |
|  |
| B. Describe the soil analytical sampling and handling procedures used. |
|  |
| C. If groundwater was encountered, was there field evidence of groundwater contamination?  Yes  No  N/A |
| 1. If yes, describe evidence of contamination, such as non-aqueous phase liquid (NAPL) - specify thickness (feet), product sheen, or groundwater in contact with petroleum-contaminated soil. |
|  |
| **Note:** If you observe NAPL, contact the Minnesota duty officer immediately as outlined in MPCA guidance document [Light non-aqueous phase liquid management strategy](https://www.pca.state.mn.us/sites/default/files/c-prp2-02.pdf). |

Section 4: Soil treatment or disposal information

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|  | Has the removed petroleum-contaminated soil been treated or disposed of? | | | | | | | | | | | | | | | | | | | | Yes  No  N/A | | | | |
|  | 1. If yes, specify method(s) of soil treatment or disposal used and treatment site/facility information: | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | Landfilling | | | | | Land treatment | | | | Composting | | | | | Thin spreading, if less than 10 cubic yards | | | | | | | | | |
|  | | Out-of-state, please describe: | | | | | | | |  | | | | | | | | | | | | | | | |
|  | | 1. **Treatment site/facility information:** | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | MPCA treatment or disposal Site ID for in-state facilities (e.g., SW-##, CS00#####, PRE000###): | | | | | | | | | | | | | | | | | | | | | |  |
|  | | | Treatment site/Facility name: | | | | | |  | | | | | | | | | | | | | | | | |
|  | | | Physical address: | | | | |  | | | | | | | | | | | | | | | | | |
|  | | | City: | | |  | | | | | | State: | |  | | | Zip: | |  | | |  | | | |
|  | |  | | | **Note:** If petroleum-contaminated soil was landfilled, include disposal receipts and required information in Section 8: Appendix C. | | | | | | | | | | | | | | | | | | | | |
|  | | b. If soils were land treated or composted, date MPCA approved soil treatment (mm/dd/yyyy): | | | | | | | | | | | | | | | | | | | | | |  | |
|  | 1. If no, provide location of the stockpile. | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | On leak site property | | | | | | | | | | | | | | | | | | | | | | | |
|  | | Off-site, provide location. | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | Physical address: | | | |  | | | | | | | | | | | | | | | | | |
|  | | | | City: | |  | | | | | | | State: | |  | | | Zip: | |  | | |

Section 5: Conclusions and recommendation

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| A. Discuss any contaminated soil left in place (i.e., unexcavated) and if the CAD objectives where accomplished. |
|  |
| B. Recommendation for site:  Site closure  Additional investigation or corrective action |
| C. Justify the recommendations for the site. |
|  |

Section 6: Tables

Table 1. Tank information1

| **Tank #** | **Tank material2** | **UST or AST** | **Capacity (gallons)** | **Contents (product type)** | **Year installed (yyyy)** | **Tank status3** | **Tank status date (mm/dd/yyyy)** | **Tank condition** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
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*1 Include current and former tanks.*

*2 Use F for fiberglass or S for Steel.*

*3 Indicate: active, removed, closed-in-place, temporary closure, abandoned, or new tank installation.*

Table 2. Results of soil headspace screening

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sample ID1** | **Sample date (mm/dd/yyyy)** | **Sample depth** **(ft)** | **Soil type** | **PID2 reading (ppm)** |
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*1 Code the samples sequentially with the following prefixes: sidewall samples with an S, bottom samples with a B, removed soil with an R, stockpile samples with SP, line samples with an L, substance transfer locations with a T, and dispensers with a D. Sample codes should correspond to the site map.*

*2 PID = photoionization detector.*

**Table 3. Analytical results of soil samples**1

| **Sample ID2** | **Sample depth (ft)** | **Sample date (mm/dd/yyyy)** | **Benzene** | **Toluene** | **Ethyl-benzene** | **Xylenes** | **MTBE** | **1,2,4-Trimethyl-benzene** | **1,3,5-Trimethyl-benzene** | **Naph-thalene** | **GRO** | **DRO** | **Lab type2** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
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*1 Report results in mg/kg. If results are below reporting limits, use < with the report level.*

*2 Code the samples sequentially with the following prefixes: sidewall samples with an S, bottom samples with a B, removed soil with an R, stockpile samples with SP, line samples with an L, substance transfer locations with a T, and dispensers with a D. Sample codes should correspond to the site map.*

*3 Indicate “mobile” or “fixed” in the lab type column.*

**Table 4. Other contaminants detected in soil samples (petroleum or non-petroleum derived)1**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sample ID** | **Sample depth (ft)** | **Sample date (mm/dd/yyyy)** |  |  |  |  |  |  |  |  |  |  | **Lab type2** |
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*1 Report results in mg/kg. Use less than symbols to show the report level.*

*2 Indicate “mobile” or “fixed” in the lab type column.*

Table 5. Water sample analytical results1

| **Sample ID** | **Sample depth (ft)** | **Sample date (mm/dd/yyyy)** | **Benzene** | **Toluene** | **Ethyl-benzene** | **Xylenes** | **MTBE** | **1,2,4-Trimethyl-benzene** | **1,3,5-Trimethyl-benzene** | **Naph-thalene** | **GRO** | **DRO** | **Lab type2** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
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| Trip blank |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Equip. blank |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lab blank |  |  |  |  |  |  |  |  |  |  |  |  |  |
| HRL3 |  |  |  |  |  |  |  |  |  |  |  |  |  |

*1 Report results in µg/L. Use less than symbols to show the report level.*

*2 Indicate “mobile” or “fixed” in the lab type column.*

*3 See the* [*MDH Human Health-Based Water Guidance Table*](http://www.health.state.mn.us/divs/eh/risk/guidance/gw/table.html) *for a list of current Health Risk Limits (HRLs).*

**Table 6. Other contaminants detected in water samples (petroleum or non-petroleum derived)1**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sample ID** | **Sample depth (ft)** | **Sample date (mm/dd/yyyy)** | **1,2-Dichloro-ethane** | **1,2-Dibromo-ethane** |  |  |  |  |  |  |  |  | **Lab type2** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Trip blank |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Equip. blank |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lab blank |  |  |  |  |  |  |  |  |  |  |  |  |  |
| HRL3 |  |  |  |  |  |  |  |  |  |  |  |  |  |

*1 Report results in µg/L. Use less than symbols to show the report level.*

*2 Indicate “mobile” or “fixed” in the lab type column.*

*3 See the* [*MDH Human Health-Based Water Guidance Table*](http://www.health.state.mn.us/divs/eh/risk/guidance/gw/table.html) *for a list of current HRLs.*

Section 7: Figures

|  |
| --- |
| All figures must include a north arrow, scale, and legend. Approximate scales are not acceptable. Utilize aerial photographs as the basis of site figures with caution since the height of buildings and structures may skew and misrepresent the apparent location due to camera angle. Attach all required figures in the following order. Indicate figures included in this report by marking the check box. **Double click checkboxes to select Checked and select OK.** |
| Figure 1: Site location map using a U.S. Geological Survey 7.5 minute quadrangle map.   1. Include adjacent city, township, county, or state roadways.   Figure 2: Detailed site map, utilizing aerial imagery, showing:   1. On-site and nearby structures, location of utilities. 2. All past and present petroleum storage tanks, piping, dispensers and transfer areas. 3. Any on-site water supply wells. If on-site water wells exist, provide well logs and/or construction diagrams. |
| Figure 3: Detailed excavation map showing: |
| a. Dimensions of excavation(s), including contour lines (maximum 2-foot contour intervals) to represent the depths of the final excavation(s).  b. Location of remaining soil contamination. |
| c.. Location of soil screening samples (e.g., R-1), soil analytical samples (e.g., S-1 or B-1), and any soil borings  (e.g., SB-1). |
| d. Location of soil stockpile, if remaining onsite. |

Section 8: Appendices

|  |
| --- |
| Attach all required or applicable appendices in the following order. Indicate appendices included in this report by marking the check box. All reproduced data must be legible. **Appendix B is required.** |

|  |  |  |
| --- | --- | --- |
|  | *Appendix A* | [Release information worksheet](https://www.pca.state.mn.us/sites/default/files/c-prp2-05.docx), if applicable, and if not previously included in a [General excavation report worksheet](https://www.pca.state.mn.us/sites/default/files/c-prp3-02.doc) or [Investigation report](https://www.pca.state.mn.us/sites/default/files/c-prp4-06.docx) |
|  | *Appendix B* | Laboratory reports |
|  | *Appendix C* | Landfill information, if applicable |
|  |  | For soils disposed at a landfill, provide the following information on landfill letterhead, weight tickets, or on an invoice: |
|  |  | 1. Date soil was accepted at landfill. |
|  |  | 1. Name of petroleum contaminated soil generator. |
|  |  | 1. Total weight (tons) or volume (cubic yards) of petroleum contaminated soil accepted. |
|  |  | 1. What the landfill did with the petroleum contaminated soil (e.g., daily cover). |
|  | *Appendix D* | Soil boring logs, if applicable, and other site documentation (e.g., field data sheets, photos) |