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| --- | --- |
| Minnesota Pollution Control Agency (MPCA), 520 Lafayette Road North, St. Paul, MN 55155-4194 | Spill response reporting form  Emergency Response Program  Guidance Document  Doc Type: Investigative Monitoring Report |

## Instructions: Complete this reporting form to document the cleanup of spills that involved soil excavation or if soil/water samples were collected. This form can be used to recommend file closure or additional work following stabilization of emergency conditions. If this spill involves a petroleum release from an above ground or underground storage tank, use of Petroleum Remediation Program guidance for reporting cleanup activities.

All documents with hyperlinks are available on the Minnesota Pollution Control Agency (MPCA) website at <https://www.pca.state.mn.us/waste/cleanup-guidance>.

Do not revise or delete questions in this report.

Spill reporting

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Duty officer report # (if known): | | | | |  | | | | | | | Incident #: | |  | | | |
| Reported date (mm/dd/yyyy): | | | | |  | | Time: | |  | | a.m.  p.m. | | | | | | |
| Incident date (mm/dd/yyyy): | | | | |  | | Time: | |  | | a.m.  p.m. | | | | | | |
| Reported by: |  | | | | | | Affiliation: | | |  | | | | | | Phone: |  |
| Email address: | |  | | | | | Products released (include CAS# if available): | | | | | | | | | |  |
| Liquid  Solid  Gas | | | | Quantity: | |  | | Units of measure | | | | |  | | Actual  Estimated | | |
| Method of measurement: | | |  | | | MSDS attached?  Yes  No | | | | | | | | | | | |

Spill location

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Name: | |  | | | Phone: | | |  | | |
| Address: | | | |  | | | | | | |
| City: |  | | | | | State: |  | | Zip code: |  |
| County: | | |  | | |  |  | |  |  |

Responsible party information

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Status:  Individual  Company/corporation  Property lessee/tenant | | | | | | | | | | |
| Individual or corporate name: | | | |  | | | | | | |
| Mailing address: | | |  | | | | | | | |
| City: |  | | | | | State: |  | | Zip code: |  |
| Email: | |  | | | | | Phone: |  | | |
| Contact name (if corporation): | | | |  | | | Phone: |  | | |
| Alternative contact name (if any): | | | | |  | | Phone: |  | | |

Environmental professional information

*By signing this document, I/we acknowledge the submittal of this document on behalf of and as agents of the responsible person or volunteer for this MPCA release. 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 reduction of reimbursement awards. In addition, I/we acknowledge on behalf of the responsible person or volunteer for this release 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

MPCA staff is instructed to reject unsigned reports and reports that have been altered:

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Report author(s) authorized signature:** | | | | |  | **Report reviewer(s) authorized signature (if different)** | | | | |
| 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: | |  | | |
|  | | *(This document has been electronically signed.)* | | |  |  | | *(This document has been electronically signed.)* | |
| 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: |  | Fax: |  | Email: |  |

Section 1: Site chronology/incident log

Chronology of events including details of how the release occurred (e.g., discovery, report time, cleanup started, soil excavation, soil borings, all pertinent communications and decisions)

|  |  |  |  |
| --- | --- | --- | --- |
| **Date (mm/dd/yyyy)** | **Time** |  | **Event** |
|  |  | a.m.  p.m. |  |
|  |  | a.m.  p.m. |  |
|  |  | a.m.  p.m. |  |
|  |  | a.m.  p.m. |  |
|  |  | a.m.  p.m. |  |
| **List others on-site during site work (e.g., fire marshal, local officials, MPCA staff):** | | | |
|  | | | |

Section 2: Site and activities description

|  |  |
| --- | --- |
| 2.1 | Describe the site (i.e., current land use, occupancy of buildings, onsite features, etc.) and any past site investigation work that may have been completed: |
|  |  |
| 2.2 | Describe the land use and pertinent geographic features within 1,000 feet of the site. (e.g., residential/industrial/commercial property, surface waters, wetlands): |
|  |  |
| 2.3 | Source of the onsite drinking water supply: |
|  |  |
| 2.4 | If present, describe the status of all the aboveground storage tank and underground storage tank system(s), including current and former tanks, piping, and dispensers. Identify all known and suspected product types that have been stored at the site. Summarize the status and characteristics of all past and present tanks in a table and identify all components on a site map: |
|  |  |

Section 3: Excavation information

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 3.1 | Dimensions of excavation basin(s): Length: | | | | |  | | Width: | |  | | | | | Depth: | |  |
| 3.2 | Describe soil types using the unified soil classification system, and note any fill present: | | | | | | | | | | | | | | | | |
|  |  | | | | | | | | | | | | | | | | |
| 3.3 | Volume of contaminated soil removed for treatment:       cubic yards (indicate on the site map where the contaminated soil was excavated) | | | | | | | | | | | | | | | | |
|  | a. | Volume of the removed soil that was product saturated (visual or by sheen test):       cubic yards (indicate on the site map where the product saturated soil was excavated) | | | | | | | | | | | | | | | |
| 3.4 | Was all spill-related contamination removed by excavating?  Yes  No | | | | | | | | | | | | | | | | |
|  | a. | If yes, please complete Section 8: Soil treatment information. | | | | | | | | | | | | | | | |
|  | b. | If no, explain the reason why and if further investigation is warranted: | | | | | | | | | | | | | | | |
|  |  |  | | | | | | | | | | | | | | | |
| 3.5 | Was groundwater or a perched water unit encountered, or was evidence of a seasonally high groundwater table (e.g., mottling) encountered during excavation?  Yes  No | | | | | | | | | | | | | | | | |
|  | a. | If yes, at what depth? | | |  | | | | | | | | | | | | |
|  | b. | Were water samples collected?  Yes  No | | | | | | | | | | | | | | | |
|  | c. | If groundwater was encountered or if a soil boring was conducted, was there field evidence of groundwater contamination?  Yes  No | | | | | | | | | | | | | | | |
|  |  | i. | Describe evidence of contamination (e.g., LNAPL (light nonaqueous phase liquid) or DNAPL (dense non-aqueous phase liquid ) – specify thickness, product sheen, groundwater in contact with contaminated soil): | | | | | | | | | | | | | | |
|  |  |  |  | | | | | | | | | | | | | | |
|  | d. | If no, what is the expected depth of groundwater: | | | | | | |  | feet | | | Source: | | |  | |
| 3.6 | Was bedrock encountered in the excavation?  Yes  No | | | | | | | | | | | | | | | | |
|  | a. | If yes, at what depth? | |  | | | | | | | |  | | | | | |
|  | b. | If no, what is the anticipated depth to bedrock? | | | | |  | | | | Source: | | |  | | | |
| 3.7 | Were other unique conditions (e.g., karst) associated with this site?  Yes  No | | | | | | | | | | | | | | | | |
|  | a. | If yes, explain: | | | | | | | | | | | | | | | |
|  |  |  | | | | | | | | | | | | | | | |

Section 4: Excavation sampling information

|  |  |
| --- | --- |
| 4.1 | Briefly describe the field screening methods used to distinguish contaminated soil from uncontaminated soil: |
|  |  |
| 4.2 | List soil headspace, sheen and other screening levels of soils left in place when excavation is complete in a table. 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. Sample codes should correspond to the site map: |
|  |  |
| 4.3 | Briefly describe the soil analytical sampling and handling procedures used: |
|  |  |
| 4.4 | List all soil sample analytical results of soils left in place when excavation is complete in a table. Code the samples as per B above. |
|  |  |
| 4.5 | Describe all water sampling of storm water, ponds, rivers, lakes or wells: |
|  |  |

Section 5: Other remedial actions

|  |  |
| --- | --- |
| 5.1 | Describe other remedial actions that were conducted, such as soil venting, neutralization, flushing etc.: |
|  |  |
| 5.2 | Do any remedial systems (sewer fans, temporary venting systems, absorbent booms) require continued operation or maintenance?  Yes  No |
|  | If yes describe: |
|  |  |

Section 6: Additional investigation

If soil or groundwater contamination remains following completion of soil excavation and/or other corrective actions complete the following sections. **If not skip to section 8.**

Site-specific geology and hydrogeology

|  |  |
| --- | --- |
| 6.1 | Discuss the soil borings and provide rationale for their locations. Include boring logs in the appendices: |
|  |  |
| 6.2 | Discuss in detail the site geology based on soil boring data, grain-size analyses, cross sections, geologic logs of nearby water supply wells, and available published information. Include detailed descriptions of more permeable soil lenses or beds within less permeable soil units: |
|  |  |
| 6.3 | Discuss the measured or estimated depth to bedrock, how the bedrock depth was determined, the uppermost bedrock formation, and the degree of weathering, fractures encountered at the bedrock interface and if karst features were identified or suspected: |
|  |  |
| 6.4 | Discuss in detail the local and regional hydrogeology based on geologic logs of nearby water supply wells and available published information: |
|  |  |
| 6.5 | Discuss site groundwater flow direction using soil boring data, monitoring well data if collected, plume geometry, and available published information: |
|  |  |
| 6.6 | Describe any evidence of a fluctuating water table or a seasonal high water table (e.g., mottling, saturated soil color or gleyed soils, monitoring well observations). Also discuss current groundwater levels with respect to long-term water table fluctuations in the area from other sources of information found on the Minnesota Department of Natural Resources website at <http://www.dnr.state.mn.us/waters/cgm/index.html>, and the U.S. Geological Survey website at <https://waterdata.usgs.gov/mn/nwis/gw>: |
|  |  |

Extent and magnitude of soil contamination

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 6.7 | Were the following conditions met? | | | |
|  | a. | Horizontal Definition: were a sufficient number of soil borings completed to define the horizontal extent of soil contamination in all directions?  Yes  No | | |
|  | b. | Vertical Definition: were all soil borings completed to a sufficient depth?  Yes  No | | |
|  |  | If you answered no in either 6.7a or 6.7b, explain why borings were not completed in the required locations or to the required depths: | | |
|  |  |  | | |
| 6.8 | Describe the vertical and horizontal extent and magnitude of soil contamination based on field observations, soil headspace measurements and soil analytical results If other contaminants are present, discuss the possible sources of these compounds. Provide in a map and two cross sections that illustrate both soil headspace and laboratory analytical results. Include laboratory analytical reports and soil sampling methodology: | | | |
|  |  | | | |
| 6.9 | Is contaminated soil in contact with groundwater?  Yes  No | | | |
|  | a. | What is the distance separating the deepest soil contamination from the surface of the water table? |  | feet |
|  | b. | Was this distance measured during site activities, referenced from geologic information, or estimated based on professional opinion during a site visit? |  | feet |
|  | c. | In your judgment, is there a sufficient distance separating the contaminated soil from the underlying groundwater to prevent contamination of the groundwater?  Yes  No | | |
|  |  | Explain in detail. In your explanation, consider the site-specific geology, the data in this section, and the nature of the petroleum release (i.e., volume, age, released product type): | | |
|  |  |  | | |
| 6.10 | Is contaminated surface soil remaining at the site?  Yes  No | | | |
|  | If yes, explain why: | | | |
|  |  | | | |

Section 7: Receptor surveys and risk evaluation

Water wells

|  |
| --- |
| Was field or laboratory evidence of groundwater contamination observed or is groundwater contamination suspected or likely?  Yes  No |

If yes, complete this section:

List all wells located within 500 feet of the site and any municipal or industrial wells within one-half mile in a **Table**. All water supply wells within 500 feet of the release source must be listed even if construction information was not obtained or available. Include all available water supply well logs obtained from the Minnesota Geological Survey, Minnesota Department of Health, drillers, or county well management authorities, and any other well construction documentation in Section 6. Identify all wells listed in the **Table** on the Well Receptor Survey Map.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 7.1 | Discuss the results of the well receptor survey. Comment on the risks to water supply wells identified within 500 feet of the site as well as the risk posed by or to any municipal or industrial wells found within one-half mile. Specifically indicate whether identified water supply wells use the impacted aquifer: | | | | | |
|  |  | | | | | |
| 7.2 | If water samples were collected from nearby water supply wells, discuss the analytical results below and tabulate them in tables: | | | | | |
|  |  | | | | | |
| 7.3 | Is municipal water available in the area?  Yes  No | | | | | |
|  |  | | | | | |
| 7.4 | Are there any plans for groundwater development in an impacted aquifer within one-half mile of the site or one-mile downgradient of the site if the aquifer is fractured?  Yes  No | | | | | |
|  | Provide the name, title, and telephone number of the person that was contacted for this information: | | | | | |
|  | Name: |  | Title: |  | Phone: |  |

Surface waters

|  |  |
| --- | --- |
| 7.5 | Are there any surface water receptors located within one-quarter mile of the site?  Yes  No |
|  | If yes, list water body and any resource impacts (fish kill, oiled birds, etc.) and natural resource trustees notifications completed: |
|  |  |
|  | Also, list any potential pathways such as ditches, drain tiles, storm sewers, etc., that may lead to an identified surface water receptor. |
|  |  |
| 7.6 | Has the risk to surface water receptors been adequately defined by soil borings or monitoring wells?  Yes  No  NA **If no,** discuss the risk to the receptor: |
|  |  |

Utilities

|  |  |
| --- | --- |
| 7.7 | Compare the distribution of contaminant phases (soil, groundwater, vapor, and NAPL) to the location of all underground utility lines including electrical and fiber optic, service lines, and nearby basements and sumps. Include all identified utilities in a table and show these and other subsurface structures in cross sections: |
|  |  |
| 7.8 | Is there any evidence that vapors, NAPL or contaminated groundwater may be traveling within utility corridors?  Yes  No |
|  | If yes, was an investigation of utility receptors completed? If so discuss the investigation rationale and results and identify all vapor monitoring locations on the Vapor Survey Map by labeling each monitoring location with a number that corresponds to vapor monitoring locations listed in a the tables. Discuss vapor monitoring methods, including instruments used: |
|  |  |
| 7.9 | Are there water distribution lines intersecting a contaminated area?  Yes  No |
|  | If yes, discuss the magnitude of the adjacent soil and groundwater contamination. Also describe construction details for all water distribution line components that intersect the contaminated area and the potential for permeation to occur: |
|  |  |
|  | If a water sample was collected from a water line, describe the sampling location, procedures, and results. Tabulate sampling results in tables: |
|  |  |
| 7.10 | Are there other sources of field-detectable vapor impacts in the vicinity of the site?  Yes  No  If yes, describe: |
|  |  |

Vapor and vapor intrusion

Do the products released present an inhalation hazard?  Yes  No

If yes, complete the following section. Note: the existence of an Intrusion Screening Value (ISV) is not the only factor used in determining a vapor intrusion risk.

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | **Yes** | **No** |
| 7.11 | Was a soil gas assessment completed?  If no, explain why: |  |  |
| 7.12 | Do any of the soil gas samples from locations near buildings exceed the ISVs by thirty-three times (33X)?  If you answered yes, is additional characterization of the vapor intrusion pathway needed for these buildings (e.g., sub-slab soil gas, an indoor building survey, or indoor air sampling)?  If no, explain why: |  |  |
| 7.13 | Based on the horizontal extent of contamination from the release, is additional soil gas sampling required?  If yes, describe your proposal for additional vapor intrusion sampling:    If no, explain why: |  |  |
| 7.14 | Were recommended field sampling procedures and laboratory quality assurance/quality control followed?  If no, explain why and discuss implications on data quality: |  |  |

Surface soils

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | **Yes** | **No** |
| 7.15 | Does contaminated soil remain at the site in the upper four feet after all cleanup work has been completed? |  |  |
|  | If yes, do any of the levels exceed established Soil Reference Values (SRVs) for the current property use (residential or commercial)? |  |  |
|  | If yes, do any of these levels exceed Soil Leaching Values (SLVs)? |  |  |
|  | If yes, do these present a risk to surface or storm water? |  |  |
| 7.16 | Does the site have a stormwater management system or permit?  If yes, describe: |  |  |

Section 8: Soil and other waste treatment or disposal

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8.1 | | List the disposal methods for all wastes generated including sorbents, liquid or solid waste generated during the spill response: | | | | | | | | | |
|  | |  | | | | | | | | | |
| 8.2 | | List the soil treatment method used (e.g., land treatment, composting, landfill): | | | | | | | | | |
|  | |  | | | | | | | | | |
| 8.3 | | Treatment site/facility information: | | | | | | | | | |
| Name: | |  | | | | MPCA ID # (SW or PRE): | |  | |
| Mailing address: | | |  | | | | | | |
| City: | |  | | State: |  | | Zip code: | |  |

Section 9: Conclusions and recommendations

|  |  |
| --- | --- |
| 9.1 | Recommendation for site: |
|  | MPCA Emergency Response Program file closure |
|  | Additional monitoring or investigation |
| 9.2 | If additional work is needed please describe. Justify the recommendations for the site including risk of any contamination left behind to drinking water, surface water, soil vapor or direct contact. If no further action is necessary, the MPCA will review this report following notification of soil treatment method, if any: |
|  |  |

Required appendices

|  |  |  |  |
| --- | --- | --- | --- |
| Attach the following appendices to this report: | | | |
|  | Appendix A: Maps | | |
|  | 1. | Aerial imagery map identifying site location and surrounding properties. | |
|  | 2. | Site map(s) drawn to scale illustrating the following: | |
|  |  | a. | Location of all petroleum and chemical storage including present and former tanks, piping, and dispensers |
|  |  | b. | Location of any surface soil contamination |
|  |  | c. | Location of other structures and utilities (e.g., buildings, canopies, above and underground utilities) |
|  |  | d. | Adjacent city, township, or county roadways |
|  |  | e. | Dimensions of excavation(s), including contour lines (maximum 2-foot contour intervals) to represent the depths of the final excavation(s) |
|  |  | f. | 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). |
|  |  | g. | North arrow, bar scale, and legend |
|  |  | h. | Provide location of any onsite water wells. If on-site water wells exist, please provide well logs and/or construction diagrams |
|  |  | i. | Locations of new tanks, piping and dispensers, if installed |
|  | Appendix B: Soil boring logs, if applicable, and other site documentation. | | |
|  | Appendix C: Laboratory Reports | | |