

# Minnesota Pollution Control Agency Voluntary Investigation and Cleanup

## Guidance Document #8

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### Phase I Investigation

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#### 1.0 Purpose

This document provides guidance on conducting a Phase I Investigation. The Phase I Investigation is considered by the Minnesota Pollution Control Agency (MPCA) staff in the Voluntary Investigation and Cleanup (VIC) Program to be the initial investigative stage in conducting an environmental assessment. It is extremely important that the Phase I Investigation be completed before preparing the soils and ground water investigation work plan (Phase II Investigation Work Plan). It is equally important that the information included in the Phase I Investigation Report reflect current conditions at the site.

#### 2.0 Objectives

The objectives of the Phase I Investigation are:

- to establish a minimal level of inquiry to be conducted during the Phase I Investigation by providing a broad base of historical sources of information;
- to determine whether the property has been the site of a release or threatened release of a hazardous substance, pollutant or contaminant under the definition of the Minnesota Superfund law; and
- to determine the types of additional inquiry which should be included in the Phase II Investigation Work Plan.

#### 3.0 Retain Consultant

The voluntary party conducting the Phase I Investigation shall retain a consultant who is qualified to undertake and complete the Phase I Investigation and who is familiar with the use of this guidance document. Items 4.0 through 9.2 outline the information that is recommended for inclusion in the Phase I Investigation Report.

#### 4.0 Purpose of Investigation

Describe the purpose, scope and objectives of the investigation. In some situations, the study may have been conducted for some reason other than to request assistance from the VIC Program. In these cases, the Phase I Investigation Report shall be amended to reflect the nature and level of inquiry described in this guidance document.

## **5.0 Property Description**

### **5.1 Location of Property**

Describe the location of the property by:

- street address;
- township and municipality;
- county;
- United States Geological Survey (USGS) quadrants to the nearest 1/4 section; and
- longitude and latitude.

### **5.2 Physical and Hydrogeologic Setting**

A description of the Site physiographic setting shall include the elevation, the type and degree of topographic relief, and the apparent direction of surface drainage. Any surface water or standing water shall be identified. The soil type, underlying geology and hydrogeologic conditions shall be described based on published information, previous subsurface investigations or well logs. Expected ground water flow direction and depth to the water table aquifer shall be provided.

### **5.3 Previous Investigations**

Previous investigations shall be referenced and the results shall be summarized. Sampling locations shall be included on a Site map; analytical data shall be tabulated. Unusual or irregular investigation methods shall be noted.

## **6.0 Historical Information about the Property**

### **6.1 History of Property**

#### **A. History of Ownership**

Provide the history of ownership of the property as far back as there are records, including:

- full name of each owner;
- year(s) of ownership;
- current owners' name and title;
- current owners' address;
- current owners' telephone number;
- bankruptcies; and
- review of property deed.

**B. History of Occupants**

Identify the names and year(s) of occupancy of all historic and current occupants, if different from the owners.

**C. History of Use and Operations**

Provide information on the historic and current operations conducted at the property for each owner/occupant. Include the year(s) during which each operation took place.

**D. Sources of Information**

The MPCA staff has identified a number of reference sources of information which are critical in determining the history of a property and shall be researched and provided if available and applicable. Reference sources include the following:

- Sanborn Fire Insurance Maps (delineate site boundaries with yellow highlighting pen or equivalent);
- Hazardous Waste Generator Lists (Metropolitan Counties);
- Polk City Directory;
- Coles Index;
- Minnesota Geological Survey Well Log Records, Geological Investigation Reports, county atlases;
- Minnesota Department of Transportation Surface Water Quality Data and Field Inspection information (boring logs on road construction and acquisition right-of-ways);
- Minnesota Department of Health (MDH) Public Water Supply Data, Well Log Data, State Well Index;
- Department of Natural Resources Water Appropriation Permit Files, Observation Well Monitoring Network;
- Environmental Protection Agency (EPA) Freedom of Information Requests via EPA's Region V office (i.e., the EPA FINDS Index);
- Historic and current USGS topographic maps, geologic and hydrologic reports, USGS Well Logs;
- Historic Land Appraisals, which often contain maps and historic pictures of the property;
- Minnesota Historical Society Site Digs and Reports;
- Superfund Amendments and Reauthorization Act (SARA) Title III Reports;
- Federal Railroad Authority (FRA) spill records;
- Trade journal and newspaper accounts regarding openings, closings and expansions of businesses;
- Corporate annual reports;
- MPCA regional offices;
- Environmental Impact Statements and Environmental Assessment Worksheets; and
- local fire department records.

## 6.2 Activities In Which Each Owner or Occupant Was Engaged

Specify the past and present activities in which each owner or occupant engaged, including:

**A. Manufacturing Processes** Specify the past and present manufacturing processes or other chemical handling processes and the year(s) used.

**B. Standard Industrial Codes** Specify the 4-digit Standard Industrial Codes (SIC) used by the various owners or occupants of the property.

**C. Raw Products Used** Specify the past and present raw products used or most likely used in the processes identified in 6.2 A.

*Note:* In the event the voluntary party believes this information must be kept confidential, the voluntary party must request the MPCA commissioner, in writing, to classify the information as non-public. The statute under which the request is being made and justification should be cited.

**D. Types and Composition of Waste Streams** Specify the types of waste streams that resulted from the manufacturing processes identified in 6.2 A.

**E. Disposal Methods** Specify the past and present disposal methods used for the waste streams identified in 6.2 D.

**F. Hazardous Waste Streams** Specify if past or present operation(s) produced hazardous waste, and if so, detail how the wastes were managed.

**G. EPA Identification Number** Specify the EPA Hazardous Waste Identification Number, if applicable.

**H. Hazardous Waste Manifests** Provide a copy of all hazardous waste manifests as far back as there are records.

**I. Hazardous Waste Treatment, Storage and Disposal** Specify the location and details of all past and present treatment, storage or disposal areas for hazardous waste, either permitted or unpermitted.

**J. Hazardous Waste Enforcement Actions** Provide a summary of any past and present enforcement actions conducted by the EPA, MPCA or others regarding the mismanagement of hazardous wastes on the property.

**K. Hazardous Waste Spill or Disposal Episode** Describe any past and present hazardous waste disposal or spill episodes which are documented or alleged to have taken place on or near the property. Specify when the episode occurred.

*Note:* If the episode occurred after the enactment of the Resource Conservation and Recovery Act (RCRA) on November 8, 1980, MPCA Hazardous Waste Enforcement staff may be the appropriate staff to provide review and oversight of the investigation.

**L. Material Safety Data Sheets (MSDS)** Review the MSDS to help determine the type of materials used by the current and historic occupants of the property.

### 6.3 Solid or Hazardous Waste Cleanups

For each owner and occupant describe any documented past and present cleanups of solid or hazardous waste spills or disposal incidents on or near the property, including tank-related incidents. Describe the cleanup(s) including type and volume, and provide the name(s) and title(s) of any regulatory and consultant personnel involved in review and oversight and date the cleanup occurred.

Provide a copy of all available field notes, pictures, and work plans for the investigation(s) and cleanup(s) as well as the final report(s).

### 6.4 Permits

For each owner and occupant, provide information on all environmental permits applied for or issued.

### 6.5 Description of Civil or Criminal Actions Taken Against Owners or Operators

For each owner and occupant, provide a description of any past and present civil/criminal actions related to environmental concerns taken against the person or company, including the year of the occurrence and the year of the civil or criminal action.

## 7.0 Property Features

### 7.1 Property Inspection

A property inspection is necessary to determine the presence of various property structures and features. The property inspection shall include:

- the name of the person conducting the inspection;
- date of inspection;
- areas of stressed vegetation, staining or subsidence;

- burned areas;

- weather conditions (including depth of snow cover, if applicable);
- roof/wall exhaust vents;
- roof drains;
- adjacent property conditions;
- operational problems;
- any other indication of a contaminant source; and
- photographs of the property.

## 7.2 Above Ground and Underground Storage Tanks

Provide information on past and present above ground and underground storage tanks. Include details such as:

- location, size, age, condition, and registration information;
- containment devices;
- tank vent and fill pipes;
- how past tanks were removed, abandoned or decommissioned;
- historic and current types of materials stored in tanks;
- tank tightness test results and methodologies;
- history of tank cleanings;
- location of any sludges generated by cleanings;
- leak site numbers;
- analytical data; and
- product pipelines and conduits.

## 7.3 Storage Containers

Identify and describe any storage containers that currently or historically have been located on the property. Include information such as:

- quantity and type;
- size;
- age;
- contents;
- labeling;
- condition (e.g., open/closed, empty/full, overpacked, frozen, etc.);
- evidence of exterior staining or deterioration; and
- storage practices (e.g., indoors or outdoors, stacked, etc.).

## 7.4 Dumps

Provide information regarding the current and historic on-site disposal of any solids, liquids, or sludges at the property. Include information on:

- permitted landfills;
- demolition landfills;
- unpermitted or open dumps;
- MPCA-approved dump closures;
- industrial wastes;
- municipal wastes;
- storage or staging areas; and
- other solid wastes (e.g., waste tires, white goods, etc.).

### **7.5 Septic Systems**

For each owner and occupant provide details on any historic or existing septic systems including:

- location, size and construction;
- types of industrial wastes placed into the septic system;
- water monitoring or other analytical data that is available;
- year and method septic system was decommissioned;
- name(s) of person(s) in charge of decommissioning;
- field notes, pictures or other information available on the decommissioning; and
- date connected to municipal sewer and if sewer is sanitary, storm or combined.

### **7.6 Utilities**

Provide historical and current location, size and construction information on utilities at the property, such as:

- date connected to municipal water supplies and sewer service;
- underground telephone lines;
- underground gas lines;
- underground pipelines;
- transformers; and
- above ground utilities.

### **7.7 Wells, Sumps, Lagoons, Catchment Basins and Retention Ponds**

Describe the types, locations and sizes of any current or historic:

- active wells;
- abandoned or sealed wells;
- injection wells or dry wells;
- sumps;
- pits;
- retention ponds;
- lagoons;



- floor drains;
- catchment basins;
- hazardous waste traps (i.e., oil/water separators); and
- filled areas.

For each of the above, provide the following details:

- dates installed;
- construction type;
- operational history;
- waste types;
- decommissionings; and
- analytical data or sampling results.

## **7.8 Environmental Records on Property Deed**

Conduct a review of the property deed to determine if there is a notification on the deed regarding:

- disposal sites;
- sealed wells (provide a copy of the MDH well sealing report); and
- hazardous substances.

## **8.0 Maps and Photographs**

### **8.1 Property Maps**

Provide separate legible property maps describing the locations of all units, structures, features, and potential sources of contamination mentioned in the report. The maps should include:

- boundary lines;
- disposal and storage areas;
- location of any hazardous waste, hazardous substances, drums and tanks;
- location of soil borings and wells, including sealed, unsealed, abandoned and damaged wells;
- location of any sumps, pits, lagoons, retention ponds or filled areas;
- location of water bodies, springs, rivers, ponds, streams, and estuaries;
- land use of contiguous properties;
- engineering structures such as drainage ways, diversion ditches, drain tiles, manholes, lined areas, leachate collection systems and septic system drain fields;
- highways, roads, roadcuts, paved or black-topped areas, and railroad lines;
- outcrops, faults, and sinkholes; and
- any other structures found during the preparation of this report.

The format of the maps should include:

- a bar scale of 1 in. = 50 ft. or 100 ft.;
- a north arrow;
- a legend;
- base map sources; and
- bench marks.

## **8.2 USGS Quadrangle**

A legible copy or photocopy of the most recent USGS 7.5 Minute Quadrangle sheet (topographic map) clearly identifying the site location shall be provided.

## **8.3 Aerial Photographs**

When using aerial photographs, provide a legible copy (good color photocopy or print) to the MPCA staff. Provide on the photograph the date and reference number, the scale of the photograph, and the location where the original photograph may be viewed. Possible sources of aerial photographs include:

- University of Minnesota Wilson Library Basement Map Library;
- Minnesota Department of Transportation, Survey and Mapping Library;
- Mark Hurd Aerial Surveys, Inc. (This is not an endorsement of its services);
- City and County Public Works or Highway Departments;
- U.S. Army Corps of Engineers Aerial Photo Library;
- Minnesota Soil Conservation Services;
- Metropolitan Council; and
- miscellaneous sources such as the client or owner's personal collection.

## **8.4 Photographs**

It is often useful to view photographs of the property which may be available from the current or past owner's personal collection or from the Minnesota Historical Society. Legible copies of any photographs should be provided to the MPCA staff with the contents and year of the photograph(s) noted.

## 9.0 Information Sources

### 9.1 MPCA Files

MPCA files are a useful source of information regarding properties—properties that have already been investigated and cleaned up, properties currently enrolled in MPCA cleanup programs, and properties that were suspected to be contaminated but, after investigation, turned out to be clean. The MPCA’s “What’s in My Neighborhood?” website at <http://www.pca.state.mn.us/backyard/neighborhood.html#search> contains a searchable inventory of those properties.

The inventory presently contains the following types of sites:

- CERCLIS Sites (Comprehensive Environmental Response, Compensation and Liability Information System)
- NFRAP Sites (No Further Remedial Action Planned)
- Federal Superfund Sites (Federal Superfund, or National Priority List (NPL), sites)
- State Superfund Sites (State Superfund, or Permanent List of Priorities (PLP), sites)
- Delisted State Superfund Sites (Delisted State Superfund Sites, or Delisted PLP (DPLP), sites)
- Permitted Solid Waste Sites
- Unpermitted Dumps (Metro Dump Inventory (MDI), the Outstate Dump Inventory (ODI) and the Open Dump Inventory)
- Voluntary Investigation and Cleanup Sites (VIC)
- State Closed Landfill Sites
- RCRA TSD Facilities
- RCRA Investigation/Cleanup Sites

Additional types of information that cannot be found by searching this inventory are as follows:

#### **Leaking Underground Storage Tank Sites**

Petroleum contamination from leaking storage tanks systems may have impacted soil and/or water at this sites. Users can search for these leak sites through the MPCA’s Minnesota Aboveground/Underground Storage Tank Sites page at <http://www.pca.state.mn.us/programs/tanks.html>.

To learn more about specific sites, contact Dianne Mitzuk at 651-297-8499. Or learn more about this program on the Leaking Underground Storage Tank Program page at [http://www.pca.state.mn.us/programs/lust\\_p.html](http://www.pca.state.mn.us/programs/lust_p.html).

**Spills of Petroleum Products and/or Hazardous Substances**

Releases have occurred at these sites, but cleanup took place soon after the incident and no further action is required. For information on these sites contact Dianne Mitzuk at the MPCA at 651-297-8499 or toll-free at 800-657-3864.

**9.2 Information Requests**

The Phase I Investigation Report preparer may also identify reliable sources of information where official records are lacking crucial detail. Some examples, though by no means a comprehensive list, include:

- interviews with past and present employees, tenants and owners;
- neighbors;
- engineering or public works departments;
- city inspection departments;
- planning and development personnel of local, county and various development authorities;
- zoning officials and assessors for the municipality or county;
- fire department inspector;
- county solid waste officer;
- county hazardous waste officer (metropolitan counties only); and
- county health department.