Spatial data collection at Remediation Division sites

This document describes the standards and procedures for collecting and submitting spatial data for Minnesota Pollution Control Agency (MPCA) Remediation Division sites.

Requirements

Which locations need to be reported?

Spatial data, or coordinates, are required for all sample locations, including, but not limited to wells (permanent and temporary), boreholes, test pits, indoor and outdoor air, sub-slab vapor, surface water, storm water and sanitary sewer, sump, and effluent.

How accurate do the coordinates need to be?

Horizontal accuracy of coordinates must be within a maximum of three meters of their actual location. The aim for vertical accuracy is project-dependent and should be confirmed with your MPCA project manager in advance.

Which coordinate system should be used?

Report spatial data coordinates in the Universal Transverse Mercator (UTM) projected coordinate system (projection).

For UTM projected coordinates, use the North American Datum of 1983 (NAD83), and report measurements in meters. Minnesota is within three UTM zones, although most of the state is within one zone, Zone 15 North (15N). It is common practice to extend Zone 15 to include areas of the state located in the other two zones, Zones 14 and 16. The standard coordinate system used by Minnesota state agencies is UTM Zone 15N, NAD83.

Vertical elevations must be reported as in US survey feet using the NAVD88 datum.

How should data be reported?

Report spatial data in an electronic data deliverable (EDD), in the EDGE_MN format. For more information on submitting spatial data, refer to the Remediation Data Submittals webpage.

Collection methods

Global Positioning System (GPS)

Handheld, civilian-grade GPS receivers are generally capable of meeting the Remediation Division's horizontal accuracy requirement of three meters without additional augmentation. Take note of the horizontal accuracy estimated by the receiver during the time of measurement; if it does not meet the requirements, an alternative collection method should be used. GPS receivers will usually allow data to be viewed in projected coordinates (e.g., UTM).

Map interpolation

An alternative method to GPS collection is to obtain coordinates from georeferenced, high-resolution aerial and satellite imagery, either through use of a geographic information system (GIS) or in an internet-based mapping application. This desktop method can be quickly and easily implemented on a computer with internet access, often at no additional cost.

Internet-based mapping applications that can be used to obtain coordinates include:

MPCA Petroleum Remediation Program Maps Online

MPCA What's in My Neighborhood

Minnesota Department of Natural Resources Landview

Google Earth

For Minnesota geographic data that can be used in GIS applications, browse the list of resources on the Minnesota Geospatial Information Office's Minnesota Geospatial Commons. The Commons provides direct access to Minnesota data and links to additional data providers.