

The Agricultural Environmental Site Assessment (AgESA)

Guidance Document 14

The Minnesota Department of Agriculture (MDA) frequently receives questions about Phase I Environmental Site Assessments (ESAs) at sites where agricultural chemicals (pesticides and fertilizers) have been mixed, stored, handled, distributed or used in the past or present, and where environmental contamination may be a problem. This document is intended to provide guidance for conducting ESAs of sites where agricultural chemical contamination or incidents may be a concern. A Phase I ESA which follows this guidance document is called an **Agricultural Environmental Site Assessment (AgESA)**, and is required for all active project files in the Incident Response Unit (IRU), with the exception of pre-construction sites. A list of recommended laboratory analyses based on facility type and class of agricultural chemical is included as Attachment 1 to this guidance document. The **AgESA Checklist** (Attachment 2 to this guidance document) has been created to assist with the preparation and review of the AgESA Report to ensure it complies with this Guidance Document. This checklist must be completed and submitted with your AgESA.

What is an Agricultural Environmental Site Assessment (AgESA)?

An AgESA is an ASTM-compliant Phase I ESA, supplemented with agricultural chemical-specific data identified via the following database searches or sources of information:

- A. Environmental Search Firm Data
- B. MDA-Specific Data Sources (AgWIMN, County Spill Report)
- C. Facility-Specific Data; and
- D. Other Agency Sources

A. Environmental Search Firm Data

When you make a request to an environmental search firm for data, you must specifically request the agricultural chemical incident history (AGSPILLS, for example) in order to get information on sites identified by the MDA. This information is separate and distinct from the information provided for non-agricultural chemical sites because the MDA's incident databases are completely separate from the records maintained by the Minnesota Pollution Control Agency. The AGSPILLS information requested from environmental search firms must include the Target Property and a one-half (0.5) mile radius from the perimeter of the site polygon (not from a point on the site or the center of the site). MDA incident project file numbers that are identified within the search radius must be reviewed and discussed in the text of the AgESA, including the agricultural chemical incident(s) at the site.

B. MDA Specific Data Sources

What's In My Neighborhood-Agricultural Interactive Mapping Webpage

Information on searching the MDA's data can be found in the 'How do I Search?' section of the 'What's in My Neighborhood-Agricultural Interactive Mapping (AgWIMN) webpage <http://www.mda.state.mn.us/chemicals/spills/incidentresponse/neighborhood>. Before you begin, download and review the 'Using the Spills & Cleanup Homepage' brochure found in this section of the AgWIMN webpage.

The MDA's AgWIMN application can be searched to determine which project case files are relevant to the site and adjacent properties. Locate your area of interest and use the "Select Features" tool to create a list of incidents in and around your area of interest. Use the "i" Identify feature for the polygon selected to get information about the selected project files. Please note that a polygon may have more than one project file associated with it, as denoted by the arrows at the top of the project file results box. The project files are identified using the following Investigation Types (as noted in the project file results box):

- Old Emergencies: These points represent the locations of spills that were closed prior to March 1, 2004. The locations of these spills have not been checked for accuracy;
- Small Spills: Recent small spills and investigations;
- Investigation Boundaries: Polygons which represent the area investigated for large incidents and other types of facility investigations; and
- Contingencies: Polygons which represent soil or ground water areas with contingencies or restrictions.

Download or print the list of incidents created using the "Select Features" tool or record the incident project file numbers that are related or relevant to your site. Any MDA incident project file numbers that are related or relevant to your site must be reviewed and discussed in the text of the AgESA.

If your site or a nearby site has a contingency (i.e., the "Contingency" line in the case file result box will state "Yes"), please review the contingency document and evaluate its relevancy to your site in the text of the AgESA.

County Spill Report

County Spill Reports may be downloaded at <http://www.mda.state.mn.us/county-spill-reports>. These lists include most of the incidents reported for each county prior to May 2008. The MDA does not have accurate locations for many of the older incidents. Use the information on the County Spill Reports to determine if any of these spills are or may be relevant to your site. Base your review on the location of the incident, not on the company name, as the company name may have changed over time. Any incidents included in the County Spill Reports that are related or relevant to your site must be reviewed and discussed in the text of the AgESA. Some of these spills are mapped as Old Emergencies in the AgWIMN application.

The County Spills Report can also be requested from the MDA Data Practices and Records Management Coordinator (651-201-6698).

C. Facility Specific Data

Relevant information from the MDA facility file should be requested from the MDA Data Practices and Records Management Coordinator (651-201-6698). A site visit should be conducted to look for and identify potential high-risk areas of agricultural chemical contamination. A high-risk area is defined as an area having a reasonable likelihood of significant contamination. This likelihood may arise from site-specific reasons or from general MDA experience with similar sites under similar use in the past. Examples of high-risk areas include agricultural chemical mixing and loading areas; fertilizer impregnation towers and conveyors; equipment parking areas; equipment repair areas; bulk pesticide and fertilizer storage areas; pesticide container storage, burning or disposal areas; anhydrous ammonia loading areas; stained or barren areas; areas with dead vegetation; runoff pooling areas; water fill stations; scale pits; and any areas associated with previous spills. Because each site is unique, areas of potential contamination must be evaluated on a site-specific basis.

A review of the facility's available sales, agricultural chemical application, and construction records must be completed as far back as possible by requesting this information from the facility directly. A summary of the facility's agricultural chemical inventory (product names, active ingredients, volumes/quantities [including units of measure] and location(s) where they were stored, mixed, used or handled) must be included in the AgESA. This will aid in determining the analyses that should be performed when samples are collected during the remedial investigation. If the facility has changed ownership and the facility's use(s) changed as a result, then an inquiry into available sales and application records for the prior entity should also be conducted, and the inventory results must be included and discussed in the text of the AgESA.

Interviews of present and former employees, must be completed and included in the AgESA to identify high-risk areas and the agricultural chemicals that were mixed, stored, distributed, used or handled at the site. A review of available aerial and/or street-view photography (e.g., Google Maps, Bing Maps, county GIS maps) should also be completed to aid in the identification of potential high-risk areas at the site. All high risk areas identified for the site should be listed and described in the text of the report and marked/labeled on the site map.

D. Other Agency Sources

A review of other investigations completed at the facility for other agencies, such as petroleum investigations, must be included and discussed in the text of the AgESA. This evaluation should determine if agricultural chemicals

were previously detected at the site and evaluate whether the data on the site's soils, hydrogeology, depth to groundwater, etc. will assist with the current MDA-regulated investigation.

E. Data Gaps

If any of these searches/inquiries cannot be conducted, or if complete data/records cannot be obtained, then you must identify this as a data gap and describe the incomplete records in the text of the AgESA.

General AgVIC Information

For more information, contact Greg Hanson, Incident Response Unit Consultant, at (651) 201-6681 or Greg.Hanson@state.mn.us

All MDA guidance documents can be found at our Web Page Address:
<http://www.mda.state.mn.us/pesticide-fertilizer/spills-cleanup>

AgESA GUIDANCE DOCUMENT

Attachment 1

RECOMMENDED LABORATORY ANALYSES BY TYPE OF FACILITY AND CLASS OF AGRICULTURAL CHEMICAL

An AgESA should be completed on all agricultural chemical-related properties before deciding if cleanup action is needed. Areas where agricultural chemicals were mixed, stored or otherwise handled are likely to be areas of recognized environmental conditions, and may warrant sampling. As part of the AgESA, an inventory of the pesticides and fertilizers that were handled, stored, or mixed on-site must be included to better evaluate what type of sample analysis is needed. The inventory results should be considered in addition to the recommended analysis listed below.

TYPE OF FACILITY

TYPE OF ANALYSIS RECOMMENDED

Ag Retailers & Applicators	MDA Lists 1 & 2, Fert
Greenhouses	MDA List 3, Fert, EPA Method 8081, Fung
Exterminators & Related	MDA List 3, EPA Method 8081, EPA Method 8141
Aerial Applicators	MDA Lists 1, 2, & 3, dinoseb, EPA Method 8141
Lawn Care Companies	MDA Lists 1 & 2, Fert, EPA Method 8141
Grain Elevators, Seed Storage	MDA List 1, mercury, carbon tetrachloride, Fung
Orchards, Truck Gardens	MDA List 1, EPA Method 8081, arsenic, lead, Fert
Golf Courses	MDA List 1, primary pesticides, heavy metals

Key:

MDA List 1	Neutral pesticides
MDA List 2	Acid pesticides
MDA List 3	Carbamate pesticides
Fert	Fertilizers; recommend analyses include nitrate nitrogen and total Kjeldahl nitrogen
EPA Method 8141	Organophosphate pesticides
EPA Method 8081	Chlorinated pesticides
Fung	Fungicides; few laboratories have a dedicated fungicide method to screen for fungicides, therefore the MDA recommends analyzing for the following fungicides and metals: benomyl, captan, chlorothalonil, metalaxyl, cadmium, copper, tin, zinc and manganese.

See MDA guidance document [GD26 Analytical Lists for Pesticide Incident Investigations](#) for analytical parameters for MDA Lists 1, 2, and 3.

AgESA GUIDANCE DOCUMENT
Attachment 2

MDA INCIDENT RESPONSE UNIT AgESA REPORT CHECKLIST

Site Name: _____

Report Date: _____

MDA Project Number: _____

Checklist Completed by _____

Signature _____

Date _____

Item	Completed (Y/N)	Location (p. #)
1. Environmental Database Search		
a. Search Firm Used (if any)		
b. Search includes AGSPILLS database (site and ½-mi radius from perimeter)		
c. Search includes Target Property and ½-mile radius from perimeter		
d. Discussion of MDA Incident files identified in the search		
e. Copy of search report provided in appendix		
2. MDA's WIMN Agricultural Case File Search		
a. Discussion of results in the report		
b. Copy provided in appendix		
3. County Spills Report Review/Case File Search		
a. Discussion of results in the report		
b. Copy provided in appendix		
4. Facility File Review from MDA Data Practices		
a. Discussion of results in the report		
b. Copy provided in appendix		
5. Site Visit		
a. Photos taken at the Site when ground surface uncovered		
6. List of Agricultural Chemicals Stored, Handled, Mixed or Loaded (Past and Present)		
a. Review included previous owner/operator (if applicable), old MDA files		
b. Documentation provided in appendix		
c. Results table (include product names, EPA product ID numbers, active ingredients, quantities/volumes, units of measure, and area(s) of the site)		
d. Discussion of results in the report		
7. Interviews of Current and Former Employees Knowledgeable of the Site		
a. Discussion of results provided in report		
b. Copies of phone notes, info., etc. provided in Appendix (if applicable)		
8. Review of Available Historical Aerial and/or Street View Photographs of the Site		
a. Discussion of results in the report		
b. Copies provided in appendix		
9. High Risk Areas for Potential Agricultural Chemical Contamination (Past and Present)		
a. Identified and labeled on the Site Map(s)		
b. Listed and described in the report text		
10. Other Agency(ies) Review(s)		
a. Discussion of results in the report		
11. Data Gaps		
a. If any searches cannot be completed or data obtained, noted in report text		