

8.0 REPORT REQUIREMENTS

After any immediate response actions have been taken, the assessment performed, or a corrective action plan determined, a report must be submitted to the department. The reports that are commonly required during a site investigation include assessment reports, corrective action plans, corrective action reports, and monitoring reports.

The department does not require that a separate report be submitted for each phase of site work. For example, an assessment and a corrective action plan may be included in the same report.

A site investigation typically begins with a Tier 1 assessment report. However, a tank removal and excavation report may be part of a Tier 1 assessment report.

The following sections will detail what type of information the department needs to see in the reports. All reports should be printed on both sides of the page to save paper and storage space.

8.1 Assessment Reports

8.1.1 Tier 1 Assessment Report

The Tier 1 assessment report must include the following items:

1. Standard site summary sheet (see page 110-111)
2. Site description and location
 - a. Street address, city, and county where the facility is located. A mailing address is not acceptable if it is different from the facility's street address.
 - b. Quadrangle name, township, range, and section
 - c. Latitude and longitude, and a statement on how this information was collected. Global Positioning System (GPS) location preferred.
3. Summary of site ownership and use
 - a. Name of owner and/or operator
 - b. Address and phone number of owner and/or operator
 - a. Name, address and phone number of contact person, if different than the owner/operator
 - b. Responsible person if different than owner
4. Summary of current and past site assessment and remediation activities, if any
5. Description of regional hydrogeologic conditions
6. Description of site specific hydrogeologic conditions (to the extent known)
7. Summary of field data and descriptions of conditions encountered (soil type, depth to ground water, petroleum odors, etc.)
8. Summary of analytical data compared to Tier 1 table in tabular form (see section 4.1.2)
9. Discussion of source(s), pathways, and potential receptors
10. Maps:
 - a. Location map taken from USGS 7 ½ minute quadrangle map
 - b. Site map (to scale) showing location of on-site and adjacent structures (i.e., aboveground storage tanks, underground storage tanks, buried utilities, suspected and confirmed sources, pump island and piping)
 - c. Map showing sample locations with field and laboratory results plotted on the map
 - d. Generalized site sketch showing structures on adjoining properties and possible receptors
 - e. Ground water elevation map (if applicable) with site features plotted on the map

11. Site photos, if available
12. Soil boring and monitoring well logs
13. Conclusions based on comparison of site data with the Tier 1 Table
14. Recommendations for corrective action, additional assessment, or closure, with discussion and rationale
15. Methodologies
16. Laboratory reports, QA/QC, and Chain of Custody forms

8.1.2 Tier 2 Assessment Report

In addition to the above items, when a Tier 2 assessment is performed, the following information must be provided.

1. Updated site summary sheet
2. Hydrogeologic conditions
 - a. Site stratigraphy
 - b. Depth to groundwater
 - c. Ground water flow direction
 - d. Name, description, and depth to any shallow aquifers
3. Summary of analytical data
4. Vertical and horizontal extent of contamination
5. Exposure pathways
6. Potential receptors
 - a. Public and private wells including location, stratigraphy, and depth to water, and well construction data
 - b. Buildings (basement or slab-on-grade)
 - c. Utilities, including location, depth in relation to ground water, and construction
7. Maps and illustrations:
 - a. Ground water elevation map with site features plotted on the map
 - b. Geologic cross sections in areas of complex geology
 - c. Map depicting free phase product plume (if any), extent of soil contaminant levels above the Tier 1 Action levels, and extent of ground water contaminant levels above the ground water quality standards
 - d. Map showing the location of any potential receptors within a one block area
8. Completed exposure scenario evaluation flowchart (see Figure 4.3 in Chapter 4)
9. Discussion of input parameters, assumptions, and results if RBCA or other modeling programs are used

8.1.3 Tier 3 Assessment Report

In addition to the information included in the Tier 1 and Tier 2 reports, a Tier 3 report must include the following information:

1. Letter from the department authorizing the Tier 3 analysis.
2. The name, basic description, data, calculations, and assumptions of the model used to develop the site specific target levels and the points of compliance.
3. The additional site information collected to evaluate the site under the Tier 3 investigation.
4. Other information, as required by the department

8.2 Corrective Action Plans and Corrective Action Reports

8.2.1 Corrective Action Plans

If a Tier 1 or Tier 2 assessment shows that corrective action is needed to meet regulatory standards, a corrective action plan must be submitted to the department. Examples of corrective actions are free product removal, excavation of contaminated soil, soil vapor extraction, etc.

For excavations, the corrective action plan must show the volume of soil to be removed, the excavation area and depth, and the disposition or treatment of the contaminated soil. See sections 4.1.4.1 for more information on tank removal and excavation.

If the corrective action plan includes on-site treatment systems the plan must include the system design and specifications. The results of a pilot study may be included in a corrective action plan.

Department approval of the corrective action plan will be granted based on the information submitted.

A corrective action plan may not be required for a tank system removal. Additional information on corrective action plans is given in Chapter 5.0.

8.2.2 Corrective Action Reports

After the corrective action plan has been approved by the department and implemented by the responsible person, a report that details the effectiveness and outcome of the corrective action must be submitted to the department. A schedule for submittal of corrective action reports will be determined on a case by case basis.

8.3 Monitoring Reports

After the remediation has been performed or a decision has been made not to perform remediation, the department in most cases will require ground water and/or air monitoring of the site. The purpose of periodic monitoring is to ensure the assumptions used in developing the recommended corrective action were correct. The department uses monitoring to ensure that contamination left in place is not causing adverse impacts. The monitoring information can eventually lead to site closure if it can be shown that standards are met.

8.3.1 Basic site information

The following is a guideline for the minimum information the department needs in a monitoring report:

1. Responsible party's name and address
2. Release location
3. Department Spill Number and PRCF File Number
4. Consultant Project Officer's name

5. Date of report
6. Sampling event number
7. Changes in site conditions (new, removed or destroyed wells, tanks, lines, etc)
8. Results of all previous monitoring data
9. Laboratory sheets (QA/QC, chain of custody, etc.)
10. Site map and ground water contour map
11. Description of unusual or pertinent conditions. This information is required to document if site conditions are changing. Examples are sudden appearance or disappearance of free product, extended periods of precipitation or drought, dead vegetation, sampling bottle damaged or frozen, sampling period exceeded, and substantial increase in contaminant concentrations.
12. Recommendations/Justifications. For a change in status at a site, the consultant must make a recommendation and support it. This is particularly true in cases of closure or inactive status. In some cases, the department may make recommendations regarding changes in site status after receiving the report.

8.3.2 Water level measurements

Water level measurements must be provided in tabular form. Results of all monitoring events must be included on the table. The table needs to include the date the measurements were taken, depth to water, and relative elevations. The text should contain a statement of the ground water flow direction and whether it is consistent with previous events, a statement about the relationship between screened interval and water elevation, and any other pertinent data.

If free product is encountered, a corrected water level must be provided. The thickness of free product and the amount recovered must be stated in the text of the report.

8.3.3 Analytical results

Analytical results must be provided in tabular form. Information from all sampling events must be included in the table. The table needs to include the date samples were taken, presence of free phase product, reporting units, South Dakota Ground Water Quality Standards, and a statement about any changes in analytical or sampling processes used. If test results are below method detection limits, the detection limit should be entered on the table.

8.3.4 Site map

All sampling points must be located on a map that is drawn to scale. The map must have a north directional arrow and show structures of concern, such as pump islands, tanks, adjacent residences and utilities. The map must show ground water contours/elevations and pertinent contaminant concentrations. The map must also show the monitoring points for air monitoring.

8.4 Site Summary Sheet

The site summary sheet must be updated and included in each report, **except monitoring reports**. The department requests that the site summary sheet be placed at the front of the report. Some items may not apply to every report, in which case write in "NA" for not applicable.

Figure 8.1 Site Summary

Site Name _____ Department File No. _____ Date _____

Location (address) _____ City _____

_____ County _____

Latitude/Longitude _____ Method (map, GPS, etc.) _____

Contaminant Source _____

Responsible Person (RP) _____ Consultant _____

RP Mailing Address _____ City _____ Zip _____

Land Use: Residential, Industrial, Rural, Other _____

Distance to and Name of Closest Surface Water _____

Depth/Distance to and Name of Closest Aquifer _____

Depth/Distance to and Name of Closest Water Well _____

Distance to/ Name of or Wellhead or Source water Protection Area _____

Environmental Media Impacted: Surface Soil <3' below ground surface, Subsurface Soil > 3' below ground surface, Ground water, Surface Water Indoor Air, Utilities, Outdoor Air, Other _____

Was Free Phase Product Present? _____

Utilities Investigated: Water, Sewer (Storm/Sanitary), Electrical, other _____

Off Site Migration of Contamination (Yes/No) Direction _____

Sensitive Receptors Within 500 feet of Plume _____

Type of Corrective Action: Excavation, Soil Vapor Extraction, Air Sparging, Bio-Venting, Monitoring, Engineering Control (specify type),

Additional Information _____

Cubic Yards of Soil Excavated/treated _____

Name of Landfarm/Landfill _____

Number of Monitoring Wells Installed _____ Number of Monitoring Wells Properly Closed _____

Proposed Action: Closure/Inactive, Remediation, Eliminate Exposure Route, Monitoring _____

(specify) _____

Volume of Tank Residues *:

Product _____ Tank Bottoms _____ Contaminated Water _____

*If gas or used oil tanks, document if hazardous waste generated: _____

Disposal of waste liquid(s): _____

Disposal of tank bottoms: _____

Signature of Responsible Person or Authorized Agent _____