

B.5. Environmental monitoring Programs

**FORM EQP 5111 ATTACHMENT TEMPLATE B5
ENVIRONMENTAL MONITORING PROGRAMS**

This document is an attachment to the Michigan Department of Natural Resources and Environment's *Form EQP 5111, Construction Permit and Operating License Applications, Hazardous Waste Treatment Storage and Disposal Facilities*. See the instructions for Form EQP 5111 for details on how to use this attachment. All references to Title 40 of the Code of Federal Regulations (40 CFR) citations specified herein are adopted by reference in R 299.11003.

The administrative rules promulgated pursuant to Part 111, Hazardous Waste Management, of Michigan's Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), R 299.9611 establishes requirements for the environmental monitoring programs for hazardous waste management facilities. Owners and operators of hazardous waste treatment, storage, or disposal facilities must develop an environmental monitoring program capable of detecting a release of hazardous waste or hazardous waste constituents from the facility to groundwater, air, or soil.

This license application template addresses requirements for an environmental monitoring program for hazardous waste management units and the hazardous waste management facility for the Wayne Disposal, Inc. facility. The template includes either a monitoring program description or a demonstration for a waiver from the monitoring requirements in accordance with R 299.9611(3)(a) and (b) and R 299.9611(4) as indicated below:

Groundwater Monitoring Program (*Check as appropriate*)

- R 299.9612 compliance monitoring program and sampling and analysis plan for one or more units
- Waiver for one or more units

Ambient Air Monitoring Program (*Check as appropriate*)

- Monitoring program and sampling and analysis plan
- Waiver

Semi-Annual Soil Monitoring Program (*Check as appropriate*)

- Monitoring program and sampling and analysis plan
- Waiver

This template is organized as follows:

- B5.A GROUNDWATER MONITORING PROGRAM
 - B5.A.3 General Groundwater Monitoring Requirements
 - B5.A.3(a) Sampling and Analysis Plan
 - B5.A.3(b) Description of Wells
 - B5.A.3(c) Procedure for Establishing Background Quality

- B5.A.3(d) Statistical Procedures
- B5.A.4 Detection Monitoring Program
 - B5.A.4(a) Indicator Parameters, Waste Constituents, and Reaction Products
 - B5.A.4(b) Groundwater Monitoring System
 - B5.A.4(c) Background Concentration Values for Proposed Parameters
 - B5.A.4(d) Proposed Sampling and Analysis Procedures
- B5.B AMBIENT AIR MONITORING PROGRAM
 - B5.B.1 Sampling and Analysis Plan
- B5.C SEMI-ANNUAL SOIL MONITORING PROGRAM
 - B5.C.1 Sampling and Analysis Plan
- B5.D LEAK DETECTION COLLECTION & REMOVAL SYSTEM MONITORING PROGRAM
 - B5.D.1 Sampling and Analysis Plan
- B5.E LYSIMETER MONITORING PROGRAM
 - B5.E.1 Sampling and Analysis Plan
- B5.F SURFACE WATER MONITORING PROGRAM
 - B5.F.1 Sampling and Analysis Plan
- B5.G SEDIMENTATION BASIN MONITORING PROGRAM
 - B5.G.1 Sampling and Analysis Plan
- B5.H LEACHATE MONITORING PROGRAM
 - B5.H.1 Sampling and Analysis Plan
- B5.I Radiological Monitoring Plan
 - B.I.1 Sampling and Analysis Plan

B5.A GROUNDWATER MONITORING PROGRAM

[R 299.9611(2)(b) and (3), R 299.9612, and R 299.9629 and 40 CFR, Part 264, Subpart F, except 40 CFR §§264.94(a)(2) and (3), (b), and (c), 264.100, and 264.101]

Attachment B5.A Sampling and Analysis Plan of the Operating License Application describes the facility's unit-specific groundwater monitoring program. The basis for determining the groundwater monitoring program for each unit described below is provided in the Attachment B3 Hydrogeological Report, attached separately to this application, which was prepared in accordance with R 299.9506.

B5.A.3 General Groundwater Monitoring Requirements

[R 299.9612 and 40 CFR §§264.97 and 264.91(b)]

The WDI facility will comply with the requirements for a groundwater monitoring program by implementing the program developed to satisfy the requirements of R 299.9612 and R 299.9629 and 40 CFR §§264.98 and 264.99, except 40 CFR §§264.94(a)(2) and (3) and 264.94(b) and (c). The basis for determining the groundwater monitoring program for each unit is provided in Attachment B3 Hydrogeologic Report, of this application that was prepared in accordance with R 299.9506.

B5.A.3(a) Sampling and Analysis Plan

[R 299.9611(2)(a)]

A sampling and analysis plan (SAP) for groundwater monitoring at WDI is included in Attachment B5.A Groundwater Sampling and Analysis plan. The sampling and analysis plan was prepared in accordance with the requirements specified in R 299.9611(2)(a). All sampling and analysis performed pursuant to this application will be consistent with the SAP. All samples for the purpose of environmental monitoring will be collected, transported, stored, and disposed of by trained and qualified individuals in accordance with the SAP.

B5.A.3(b) Description of Wells

[R 299.9612 and 40 CFR §264.97(a), (b), and (c)]

The Hydrogeological Report provides documentation that the groundwater monitoring program contains a sufficient number of wells, installed at appropriate depths to yield groundwater samples from the uppermost aquifer that (1) represent the quality of background water that has not be affected by leakage from a regulated unit; (2) represent the quality of groundwater passing the point of compliance; and (3) allow for detection of contamination when hazardous constituents have migrated from the waste management area to the upper aquifer.

B5.A.3(c) Procedure for Establishing Background Quality

[R 299.9612 and 40 CFR §264.97(a)(1) and (g)]

Procedures for establishing background groundwater quality are described in Attachment B5.A Groundwater Sampling and Analysis plan.

B5.A.3(d) Statistical Procedures

[R 299.9612 and 40 CFR §§264.97(h) and 264.97(i)(1), (5), and (6)]

Statistical procedures for evaluating groundwater quality are described in Attachment B5.A Groundwater Sampling and Analysis plan

B5.A.4 Detection Monitoring Program

[R 299.9612 and 40 CFR §§264.91(a)(4) and 264.98]

The basis for determining the detection monitoring program for each unit is provided in Attachment B3 Hydrogeologic Report, of this application that was prepared in accordance with R 299.9506.

B5.A.4(a) Indicator Parameters, Waste Constituents, and Reaction Products

[R 299.9506(3)(a) and (f), R 299.9506(4)(a), and R 299.9612 and 40 CFR §264.98(a)]

The monitoring parameter list is provided in Attachment B3 Hydrogeologic Report.

B5.A.4(b) Groundwater Monitoring System

[R 299.9612 and 40 CFR §§264.97(a)(2), (b), and (c) and 264.98(b)]

Refer to Section B5.A.3(a)

B5.A.4(c) Background Concentration Values for Proposed Parameters

[R 299.9612 and 40 CFR §§264.98(c) and 264.97(g)(1) and (2)]

Refer to Sections B5.A.3(b) and (c)

B5.A.4(d) Proposed Sampling and Analysis Procedures

[R 299.9506(3)(e) and R 299.9612 and 40 CFR §§264.97(d), (e), and (f) and 264.98(d), (e), and (f)]

Refer to Section B5.A.3(a) and (b)

B5.B AMBIENT AIR MONITORING PROGRAM

[R 299.9611(2)(c) and (4)]

B5.B.1 Sampling and Analysis Plan

[R 299.9611(2)(a)]

A sampling and analysis plan for ambient air monitoring is included B5.B Ambient Air Monitoring, which was prepared in accordance with the requirements specified in R 299.9611(2)(a). All sampling and analysis performed pursuant to this application will be consistent with the Ambient Air Monitoring Plan.

The WDI facility will conduct ambient air monitoring to detect concerns of the provisions of Part 55 of Act 451.

B5.C SEMI-ANNUAL SOIL MONITORING PROGRAM

[R 299.9611(2)(d) and (4)]

B5.C.1 Sampling and Analysis Plan

[R 299.9611(2)(a)]

Attachment B5.C Soil Monitoring Sampling and Analysis Plan provides for semi-annual soil monitoring requirements. The sampling and analysis plan was prepared in accordance with the requirements specified in R 299.9611(2)(a). All sampling and analysis performed pursuant to this application will be consistent with SM SAP.

B5.D LEAK DETECTION COLLECTION & REMOVAL SYSTEM MONITORING PROGRAM

B5.D.1 Sampling and Analysis Plan

A sampling and analysis plan monitoring WDI's leak detection collection and removal system Attachment B5.D Leak Detection Collection and Removal System Sampling and Analysis (LDCRS). All sampling and analysis performed pursuant to this application will be consistent with this plan.

B5.E LYSIMETER MONITORING PROGRAM

B5.E.1 Sampling and Analysis Plan

A lysimeter sampling and analysis plan (SAP) for annual lysimeter monitoring for WDI is included in Attachment B5.E. All sampling and analysis performed pursuant to this application will be consistent with this plan.

B5.F SURFACE WATER MONITORING PROGRAM

B5.F.1 Sampling and Analysis Plan

A sampling and analysis plan (SW SAP) for quarterly surface water monitoring for WDI is included in Attachment B5.F. All sampling and analysis performed pursuant to this application will be consistent with this plan.

B5.G SEDIMENTATION BASIN MONITORING PROGRAM

B5.G.1 Sampling and Analysis Plan

A sampling and analysis plan (SB SAP) for annual sedimentation basin monitoring for WDI is included in Attachment B5.G. All sampling and analysis performed pursuant to this application will be consistent with the plan.

B5.H LEACHATE MONITORING PROGRAM

B5.H.1 Sampling and Analysis Plan

A sampling and analysis plan for leachate monitoring for WDI is included in Attachment B5.H. All sampling and analysis performed pursuant to this application will be consistent with the plan.

B5.I Radiological Monitoring Plan

B5.I.1 Sampling and Analysis Plan

Attachment B5.I provides information on WDI's radiological monitoring program. Sampling and analysis is completed utilizing procedures identified in the Environmental Radiological Monitoring Plan provided with Attachment B5.I.