

A.2 Chemical and Physical Waste Analysis Plan

**MICHIGAN DISPOSAL WASTE TREATMENT PLANT (MDWTP)
MID 000 724 831
2017 ATTACHMENT REVISIONS**

**Replaces Previous Attachments A.2 Chemical and Physical Properties, and
A.3 Waste Analysis Plan**

CHEMICAL AND PHYSICAL WASTE ANALYSIS PLAN (WAP)

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), being R 299.9504, R 299.9508, and R 299.9605, and Title 40 of the Code of Federal Regulations (CFR) §§264.13(a), (b), and (c) as well as §§270.14(b)(2) and (3) establish requirements for chemical and physical analyses and WAPs at hazardous waste management facilities. All references to the 40 CFR citations specified herein are adopted by reference in R 299.11003

This license application addresses requirements for chemical and physical WAPs at the hazardous waste management facility for the Michigan Disposal Waste Treatment Plant (MDWTP) and Wayne Disposal Inc. (WDI) in Belleville, Michigan. The information included demonstrates how the facility meets the chemical and physical analyses requirements for hazardous waste management facilities. All activities associated with the WAP will be conducted at the MDWTP and WDI, Belleville facility unless otherwise specified.

Type of applicant: *(Check as appropriate)*

- Applicant for Operating License for Existing Facility
- Applicant for Operating License for New, Altered, Enlarged, or Expanded Facility

Type of Facility: *(Check as appropriate)*

- On-site Facility (generates hazardous waste)
- Off-site Facility (accepts hazardous waste from other generators)

Type of Units to be Constructed or Operated at the Facility: *(Check as appropriate)*

- Containers
- Tank(s)
- Waste Pile(s)
- Landfilled Waste
- Waste Incineration
- Land Treatment
- Miscellaneous Unit(s)
- Boilers and Industrial Furnaces

Ensure that all samples collected for the purposes of waste characterization are collected, transported, analyzed, stored, and disposed by trained and qualified individuals in accordance with the Quality Assurance/Quality Control (QA/QC) Plan. The QA/QC Plan should, at a minimum, include the written procedures outlined in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," U.S. Environmental Protection Agency (EPA) Publication No. SW-846, Third Edition, Chapter 1 (November 1986), and its updates.

Table of Contents

A2	Introduction	4
A2.A	Pre-Approval	4
A2.A.1	Waste Type Description	4
A2.A.1(a)	Acceptable Waste Type Description	4
A2.A.1(b)	Restricted Waste Type Description	5
A2.A.1(c)	Onsite Generated Waste	6
A2.A.2	Pre-Approval Waste Characterization Requirements	6
A2.A.3	Sampling and Selection of Waste Analysis Parameters	8
A2.A.3(a)	On-site Generated Waste	8
Table A2.A.1	Representative Sampling Procedures	8
A2.A.3(b)	Off-site Generated Waste	9
Table A2.A.2	Pre-Approval/Waste Characterization Analysis Procedures	10
A2.A.4	Pre-Approval Land Disposal Restrictions (LDR) Evaluation	11
A2.A.4(a)	Dilution and Aggregation of Wastes	11
A2.A.5	Pre-approval Generator Waste Characterization Discrepancies	11
A2.A.6	Subsequent Waste Shipment Procedures	12
A2.B	Pre-Acceptance	13
A2.B.1	Pre-Acceptance Procedures	13
A2.B.1(a)	Paperwork Review	13
A2.B.1(b)	Sampling Methods and Frequency	13
Table A2.B.1	Representative Sampling Procedures	14
A2.B.1(c)	Waste Screening and Visual Inspection of Waste	14
A2.B.1(d)	Sampling Methods and Frequency Exceptions	15
A2.B.2	Pre-Acceptance Discrepancy	15
Table A2.B.2	Pre-Acceptance Analysis Procedures	17
A2.C	Waste Acceptance	18
A2.C.1	Containerized Waste	18
A2.C.1(a)	Wastes Container Compatibility	18
TABLE A2.C.1	Segregation and Separation Chart of Hazardous Materials	18
A2.C.1(b)	Containers without Secondary Containment System	19
A2.C.2	WASTE IN TANK SYSTEMS	19
A2.C.2(a)	Tank Assignment (MDWTP)	19
A2.C.2(b)	Waste Compatibility with and within Tanks	19
A2.C.2(c)	Tanks without Secondary Containment System	19
A2.C.3	Waste Bulking and/or Consolidation Compatibility	20
A2.C.4	Transshipped Waste	20
A2.D	Post Treatment and Land Disposal Restriction	21
A2.D.1	Treatment for Purpose of Land Disposal	21
Table A2.D.1	Characteristic Treatment Identification	21
A2.D.2	Land Disposal Restrictions	21
A2.D.2(a)	Characteristic Wastes	22
A2.D.2(b)	Listed Wastes	22
A2.D.2(c)	Laboratory Packs	22
A2.D.2(d)	Radioactive Mixed Waste	23
A2.D.2(e)	Contaminated Debris	23
A2.D.2(f)	Waste Mixtures and Wastes with Overlapping Requirements	23
A2.D.2(g)	Dilution and Aggregation of Wastes	23
A2.D.3	Post-Treatment Sampling and Analysis (MDWTP)	24
A2.D.4	Documentation of Variations on Test Methods Used for Waste Analysis	24
Table A2.D.2	Land Disposal Restriction Verification	25

A2.E	LANDFILLED WASTES	26
A2.E.1	Containerized or Bulk Wastes	26
A2.E.2	Procedures to Determine Addition of Biodegradable Sorbent	26
A3.E.3	Waste Shipped to Subtitle C Facilities	26
A3.E.4	Waste Shipped to Subtitle D Facilities	26
A3.E.5	Recyclable Materials	26
A2.F	NOTIFICATION, CERTIFICATION, AND RECORDKEEPING REQUIREMENTS	27
A2.F.1	Retention of Generator Notices and Certifications	27
A2.F.2	Notification and Certification Requirements for Treatment Facilities	27
A2.F.3	Record Keeping	27
A2.F.7	Required Notice	28
Appendix A	.....	29
Hazardous Wastes Accepted at the Facility	.....	29
Appendix B	.....	30
Wayne Disposal Inc. and Michigan Disposal Waste Treatment Plant	.....	30
Radiological Waste	.....	30

A2 INTRODUCTION

Michigan Disposal Waste Treatment Plant (MDWTP) and Wayne Disposal Inc. (WDI) are commercial facilities that receive wastes generated from off-site locations. MDWTP and WDI have developed this shared chemical and physical waste analysis plans to ensure that only wastes that are authorized and properly characterized are received at the facility. Pre-approval, pre-acceptance, acceptance, treatment and post-treatment evaluations are completed by qualified personnel. All onsite and offsite generated waste will be evaluated through the procedures outlined in this plan.

All analysis performed pursuant to this WAP will be consistent with the QA/QC Plan maintained at the facility. All samples of the facility's waste being characterized will be collected, transported, stored, and disposed by trained and qualified individuals in accordance with the QA/QC Plan.

The parameters selected for analysis of wastes managed by the facility and the rationale for their selection is based on the physical/chemical characteristics of the waste, the regulatory and operating license requirements for treatment and/or storage of the waste at MDWTP or disposal at WDI, the information and analytical data supplied to the facility by the waste generator and the process control data necessary to manage the waste by the MDWTP's treatment and/or storage operations or disposal at WDI.

In accordance with R 299.9609 and 40 CFR §264.73 and Part 264, Appendix I, MDWTP and WDI will retain all records and results of waste determinations performed as specified in 40 CFR §§264.13, 264.17, 264.314, 264.1034, 24.1063, 264.1083, 268.4(a), and 268.7 in the facility operating record until closure of the facility.

A2.A PRE-APPROVAL

[R 299.9504(1)(c) and 40 CFR §270.14(b)(2)]

A2.A.1 WASTE TYPE DESCRIPTION

(GENERATED ON-SITE WASTES AND OFF-SITE WASTES THAT MAY BE RECEIVED)

[R 299.9504(1)(c) and 40 CFR §270.14(b)(2)]

A2.A.1(a) Acceptable Waste Type Description

The waste types that may be generated onsite or received from offsite generators and are acceptable for treatment and/or storage at MDWTP or disposal at WDI are defined in Appendix A and B. In addition to hazardous waste, nonhazardous waste may be accepted for treatment, storage and disposal at the facilities.

Characteristic waste codes that may be approved into MDWTP or WDI are provided in Appendix A. Analytical concentrations exceeding characteristically hazardous levels are required to be characterized with the appropriate waste code. Waste exceeding applicable land disposal restrictions will be approved for treatment at MDWTP or transshipment to an off-site location for further treatment. Waste meeting applicable LDRs will be approved for land disposal at WDI or an off-site Subtitle D landfill.

Generator process knowledge strongly contributes to the documentation of the applicability of a listed waste code. Analytical concentrations exceeding applicable land disposal restrictions be approved for treatment MDWTP or be transshipped to an off-site location for further treatment. Waste meeting applicable LDRs may be disposed of at WDI, but will carry the waste code through to disposal. Listed waste codes that may be delisted through treatment will be treated to the appropriate standard and may be disposed of at WDI or send to an off-site Subtitle D landfill.

Generator process knowledge, analysis, and/or information provided on the waste characterization form will be used to demonstrate waste mixtures and wastes with multiple codes are properly characterized. Each waste that has more than one characteristic will be identified with a number for each characteristic. Waste identified as meeting a listing and exhibiting a characteristic will be identified with the listed waste code for the purpose of manifesting, etc.

The laboratory packs accepted at the facility are not land disposed without meeting applicable Subpart D treatment standards. Lab pack waste received or generated with an LDR requesting lab pack alternatives to Subpart D treatment standards, will be transshipped offsite for incineration in accordance with 268.42(c). Lab packs received with the appropriate LDR designation indicating the compliance status of Subpart D treatment standards may be received and processed to applicable 268.40 treatment standards.

Hazardous debris accepted at the facility will be treated using one of the technologies identified in Table 1 of 40 CFR §268.45. Debris as defined in 40 CFR 260.10 may be treated at MDWTP prior to land disposal at WDI or an alternate Subtitle C landfill utilizing the immobilization technologies defined in 40 CFR 268.45 in order to meet the alternative treatment standards for hazardous debris provided in 40 CFR 268.45.

Rule 299.9228 establishes an alternate set of standards under which universal wastes may be managed instead of full regulation as hazardous waste under these rules. Waste that meets the criteria established by the rule may be transshipped from the facility for recycling or disposed of in accordance with the requirements of the rule.

Any time MDWTP treats, stores, or disposes of ignitable or reactive wastes, or mixes incompatible wastes, the facility will take precautions to prevent reactions which:

- ◆ Generate extreme heat or pressure, fire or explosions, or violent reactions
- ◆ Produce uncontrolled toxic mists, fumes or gasses in sufficient quantities to threaten human health or environment
- ◆ Produce uncontrolled flammable fumes or gasses in sufficient quantities to threaten human health or environment;
- ◆ Damage the structural integrity of the device or facility
- ◆ Through other means threaten human health or environment.

A2.A.1(b) Restricted Waste Type Description

The following waste streams are restricted at MDWTP:

- ◆ The facility does not accept low level radioactive mixed waste. MDWTP and WDI do not accept low level radioactive mixed waste. See Appendix B Radiological Waste Acceptance Criteria
- ◆ Ignitable wastes with a flashpoint <90F may be stored but may not be treated.
- ◆ Reactive wastes (D003, K027, K044, K047, K161, and K045):
 - Wastes identified in R299.9212 (3)(a, f, g, h) may not be stored or treated.
 - Wastes identified in R299.9212 (3)(b, c, d) may be stored only in the NCSA and transshipped for off-site treatment.
 - Wastes identified in R299.9212 (3)(e) may be stored in any permitted container storage area.
 - D003 deactivated (no longer exhibits the characteristic of reactivity) and wastes identified in R299.9212 (3)(e) as sulfide bearing wastes may be received for storage and treatment.
- ◆ Dioxin-containing waste requiring treatment for F020-F023, F026-F028, K043, and K099 may be stored or treated for constituents other than dioxins.

In addition, following waste types are **NOT ACCEPTABLE** for disposal at WDI:

- ◆ Waste prohibited from land disposal as defined by 40 CFR 268, Subpart C, will not be disposed of at WDI.
- ◆ Ignitable wastes as described in R299.9212(1);
- ◆ Reactive wastes as described in R299.9212(3) unless the waste no longer exhibits the characteristic of reactivity;
- ◆ Bulk or non-containerized liquid waste or waste containing free liquids;
- ◆ Containers holding free liquids, including laboratory packs;
- ◆ Wastes which will:
 - Adversely affect the permeability of the clay liner;
 - Produce a leachate that is incompatible with the synthetic liner, leachate collection system (LCS), discharge piping, and the off-site sewer system;
 - Generate gases which will adversely affect the permeability of the clay cap; and
 - Create a violation of 1975 PA 348 and rules promulgated thereunder

Wastes which are banned from landfilling by regulations promulgated under 40 Code of Federal Regulations (CFR) Part 268 unless the wastes meet the applicable Land Disposal Restriction (LDR) treatment standards or a variance has been obtained from the administrator. The following variances have been approved:

- ◆ May 23, 2016 Guardian Industries Corporation (MID 048 784 896) Air Pollution Control Dust

A2.A.1(c) Onsite Generated Waste

Housekeeping, maintenance, laboratory and waste processing activities may result in the on-site generation of waste at the facility and may include any of the acceptable wastes listed in the appendix. Waste generated at the facility is evaluated in the same manner as off-site waste utilizing procedures provided in the sections to come. Laboratory reports and waste characterizations are maintained at the facility as part of the operating record. Hazardous waste generated at the facility is also reported to the DEQ as part of the facility operating report in accordance with Rule 610(3).

All samples collected for the purposes of on-site waste characterization are collected, analyzed, stored, and disposed of by trained and qualified individuals in accordance with the Quality Assurance/Quality Control (QA/QC) Plan. The QA/QC Plan includes written procedures outlined in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," U.S. Environmental Protection Agency (EPA) Publication SW-846 Compendium.

A2.A.2 PRE-APPROVAL WASTE CHARACTERIZATION REQUIREMENTS [R 299.9605(1) and R 299.9504(1)(c) and 40 CFR §264.13(b)(5)]

The initial step of the waste stream approval process is a review of the waste characterization as prepared by the generator. A person who generates a solid waste, as defined in 40 CFR 261.2, must make an accurate determination as to whether that waste is a hazardous waste in order to ensure wastes are properly managed according to applicable RCRA regulations. To aid generators in complying with the requirement and ensure the TSDF obtains chemical and physical information from the generators, MDI and WDI require the submittal of waste characterization information. In accordance with the requirements set forth by 40 CFR 262.11, MDWTP and WDI will require the following waste profile information for initial waste shipments from all off-site generators and onsite generated waste prior to processing the waste:

- ◆ Generator information
 - Generator Name
 - EPA ID Number

- Address
- Phone Number
- ◆ Waste Description
 - A hazardous waste determination for each solid waste at the point of waste generation, before any dilution, mixing, or other alteration of the waste occurs, and at any time in the course of its management that it has, or may have, changed its properties as a result of exposure to the environment or other factors that may change the properties of the waste such that the RCRA classification of the waste may change.
 - A determination on the applicability of listed hazardous waste codes using knowledge of the waste to determine whether the waste meets descriptions under subpart D of 40 CFR part 261.
 - A determination on whether the waste exhibits one or more hazardous characteristics
- ◆ Identification of Exclusions and Exemptions
 - Materials excluded from the definition of solid waste
 - Solid waste excluded from the definition of hazardous waste
 - Hazardous waste exempt from Subtitle C regulations
- ◆ LDR
 - 40 CFR 268.7(a)(1) Generators must determine whether their waste is subject to the LDRs for each hazardous waste at the point of generation,
- ◆ Generator certification
 - Written or electronic signature from individuals authorized to make waste characterization decisions certifying information provided is representative, true and accurate.

Additionally *MDWTP and WDI* will review the waste profile information to ensure that the facility is authorized to receive the waste, in accordance with the following requirements

- ◆ Ignitable, reactive and incompatible waste
- ◆ Universal Waste
- ◆ RCRA Waste with >500ppm VOC bearing waste

For the purposes of compliance with 40 CFR Part 268 or if the waste is not listed in Subpart D of 40 CFR Part 261 (R299.9213), per 40 CFR 262.11, the generators must determine whether their waste is identified in Subpart C of 40 CFR Part 261 (R299.9212) by either:

- ◆ Testing the representative samples of the waste according to the methods set forth in Subpart C (of 40 CFR Part 261) or according to an equivalent or recognized laboratory method
- ◆ Applying knowledge of the hazard characteristic in light of the materials or processes used.
 - Acceptable knowledge that may be used as part of the basis for acceptable knowledge include but are not limited to: waste origin, composition, feedstock, knowledge of products, by-products, and intermediates produced by the manufacturing process; material balances for the source or process generating the hazardous waste; chemical and physical properties of chemicals used or produced by the process or otherwise contained in the waste, constituent-specific chemical test data for the hazardous waste from previous testing that are still applicable to the current waste; previous test data for other locations managing the same type of waste; knowledge based on information included in manifests, shipping papers, waste certification notices, and Safety Data Sheets; or other reliable and relevant information

The generator provided profile information (data, waste type, process description, waste chemical and physical characteristics, LDR requirements in 40 CFR Part 268) provide the facility with sufficient information to decide if the waste can be accepted for disposal at WDI or storage, transshipment and treatment at MDWTP. An individual approval is assigned to the waste stream along with a handling method that identifies the treatment(s) required (if any) as well as disposal.

If the generator does not provide sufficient information, the generator or their representative is contacted in order to obtain additional information before the approval process will continue. Representative samples may be requested to further evaluate the waste and verify information provided by the generator, but are not required.

A2.A.3 SAMPLING AND SELECTION OF WASTE ANALYSIS PARAMETERS

[R 299.9605(1) and 40 CFR §264.13(B)(1)]

A2.A.3(a) On-site Generated Waste

Knowledge of the process and analytical testing will be used to determine if the hazardous wastes exhibit one or more characteristics to: (1) ensure compliance with LDR regulations and (2) provide waste compatibility information to determine appropriate waste storage. When generator knowledge is not enough to characterize a waste stream generated at the facility MDWTP and WDI will select waste analytical parameters based on what is reasonably expected to be present in the waste and use information such as knowledge of the raw material, historical analytical results, and physical and chemical processes that produce the waste stream to help support the analytical requirement.

USEPA SW-846 will be followed, whenever possible, when choosing sampling equipment and methodologies. Sampling equipment is constructed of non-reactive materials. Care is taken in the selection of the sampler to prevent cross-contamination of the sample and to ensure compatibility of materials. If a method is not provided in USEPA SW-846, then a different method will be used as indicated Table A2.A.1. All equipment used in the collection of waste samples will either be disposable (e.g., scoops or container thieves) or sufficiently cleaned to remove observable contamination prior to sampling.

Table A2.A.2 lists the waste analysis parameters that will be completed for the purpose of characterization of onsite waste, and parameters that may be needed in order to make a pre-approval determination. The table includes the rationale for the selection of these parameters, test methods that will be used to test for these parameters, the appropriate reference, the frequency of waste characterization, and the rationale for frequency. Where a test method is specified in subpart C of 40 CFR part 261, the results of the regulatory test, when properly performed, are definitive for determining the regulatory status of the waste if knowledge or other supporting information cannot be used.

Table A2.A.1 Representative Sampling Procedures

Container Type or Material	Sampling Method¹	Sampling Equipment	Rationale
Aqueous Waste	SW-846	Thieves Coliwasas	Chapter Nine of SW-846 Compendium: Sampling Plans
Solid, sludge, granular	SW-846	Auger Trier Scoops	

¹The sampling method should demonstrate equivalence with the sampling methods described in 40 CFR, Part 261, Appendix I

A2.A.3(b) Off-site Generated Waste
[R 299.9605(1) and 40 CFR §264.13(B)(1)]

As stated in 262.11, a person who generates a solid waste, as defined in 40 CFR 261.2, must make an accurate determination as to whether that waste is a hazardous waste in order to ensure wastes are properly managed according to applicable RCRA regulations. The information provided to MDWTP and WDI is used as the basis for the chemical and physical analysis, and generators are responsible for ensuring the information is true and accurate. Highly variable waste streams are urged to be characterized conservatively in order to require treatment of all constituents of concern that are reasonably expected to be present in the waste. Additionally, generators may be asked to provide multiple data points and information in order to demonstrate the characterization. Waste streams that may have varying characterizations may be broken up into multiple approvals segregating the waste according to the appropriate characterization. If necessary MDWTP and WDI may choose to conservatively manage the waste, however as 262.11 states the generators are ultimately responsible for the determination at the point of generation.

Confirmatory analysis may be completed in order to corroborate a generator's characterization. This may be done at the request of the generator, or if the waste stream is suspected to have additional contaminants of concern than identified by the generator. Discrepancy procedures outlined in A2.A.4 will be followed if analysis differs from the generator characterization.

Table A2.A.2 Pre-Approval/Waste Characterization Analysis Procedures

Waste Characterization: Characterization of onsite generated waste
 Preapproval: Evaluation prior to approving waste

Screening Parameter	Rationale for Parameter		Test Method	Reference	Frequency	Rationale for Frequency
	Waste Characterization	Pre-Approval				
Waste Code (onsite generated waste)	See section A2.A.2		See metals, VOC, SVOC, ignitability, reactivity screening parameters.	See metals, VOC, SVOC, ignitability, reactivity screening parameters.	See Attachment A2.A.3(a)	
Land Disposal Restrictions (LDR)	See section A2.A.2		See metals/mercury, VOC, SVOC, Pesticide, and Herbicide parameters.	See applicable parameter below	See section A2.A.2	
Free Liquids	Verification of the presence of free liquids		Visual Inspection or Paint Filter Liquids Test	Visual ;SW846, 9095	Waste Characterization: A2.A.3(a) Preapproval: See A2.A.3(b)	
Ignitability	D001 ignitability determination		Flashpoint by Pensky-Martens or Setaflash	SW 846 1010 or SW 846 1020	Waste Characterization: A2.A.3(a) Preapproval: See A2.A.3(b)	
Reactivity	D003 reactivity determination		Water addition to waste and monitor for adverse reaction	Internal Procedure	Waste Characterization: A2.A.3(a) Preapproval: See A2.A.3(b)	
Cyanide Screening	Verify potential of the presence of cyanides		SW846 9014 coloring method reagents are added to a mixture of water and waste. In the presence of cyanide color change will occur.	Pyridine-barbituric acid colorimetry screening	Waste Characterization: A2.A.3(a) Preapproval: See A2.A.3(b)	
Cyanide	Quantification of Cyanide Concentration		Total and Amenable Cyanide: Distillation; Cyanide in Waters and Extracts Using Trimetric and Manual Spectrophotometric Procedures	SW846 9010 and 9014	Waste Characterization: A2.A.3(a) Preapproval: See A2.A.3(b)	
PCB	Quantification of PCB Concentration		PCBs by GC	SW846 8082	Waste Characterization: A2.A.3(a) Preapproval: See A2.A.3(b)	
Metals/Mercury	Quantification of PCB Concentration		Solid or liquid digestion procedure followed by analysis	SW846 6010, SW846 7473, 245.7M	Waste Characterization: A2.A.3(a) Preapproval: See A2.A.3(b)	
Hydrogen Sulfide Screening	Verify potential of the presence of sulfides in order to rule out		Mix waste in cup with acid. Detect H2S gas with lead acetate paper or other appropriate device	Internal Procedure	Waste Characterization: A2.A.3(a) Preapproval: See A2.A.3(b)	
pH	D002 determination		If not visually apparent after looking at pH paper, an electronic measurement will be made. Full Sw846 method used when characterizing waste	SW846 9040	Waste Characterization: A2.A.3(a) Preapproval: See A2.A.3(b)	
Semi-volatiles	Quantification of Semi-volatile Concentration		Solid or liquid extraction procedure followed by analysis on GC	SW846 8270	Waste Characterization: A2.A.3(a) Preapproval: See A2.A.3(b)	
Volatiles	Quantification of Volatile Concentration		Solid or liquid extraction procedure followed by analysis on GC	SW846 8260, 8015	Waste Characterization: A2.A.3(a) Preapproval: See A2.A.3(b)	
Pesticides	Quantification of Pesticide Concentrations		Solid or liquid extraction procedure followed by analysis on GC	SW846 8081	Waste Characterization: A2.A.3(a) Preapproval: See A2.A.3(b)	
Herbicides	Quantification of Herbicide Concentration		Solid or liquid extraction procedure followed by analysis on GC	SW846 8151, 8270	Waste Characterization: A2.A.3(a) Preapproval: See A2.A.3(b)	

**Alternative methods may be required on a case by case basis in order to properly analyze the waste

A2.A.4 PRE-APPROVAL LAND DISPOSAL RESTRICTIONS (LDR) EVALUATION

[R 299.9605(1) and 40 CFR §264.13(B)(1)]

Onsite and off-site generated waste streams are reviewed by qualified personnel for concurrence with LDR applicability and prohibition of disposal. The determination is based on information provided by the generator as required by 40 CFR 268.7(a)(1).

Generator process knowledge, analysis, and/or information provided on the waste characterization form will be used to determine whether characteristic waste along with underlying hazardous constituents reasonably expected to be present above their concentration-based levels (see Table UTS in §268.48) at the point of generation, meet the applicable land disposal restrictions. In accordance with R 299.9627 and 40 CFR §268.41, where treatment standards are based on concentrations in the waste extract, the toxicity characteristic leaching procedure (TCLP) will be used, if required in accordance with Method 1311, to determine if waste meet treatment standards. Constituents exceeding applicable LDRs will be treated on-site by acceptable treatment methods or sent off-site to a facility that can appropriately treat the waste.

A2.A.4(a) Dilution and Aggregation of Wastes

[R 299.9627 and 40 CFR §268.3]

Listed wastes, if destined for land disposal, may not be diluted from the point of generation to the point of land disposal. Characteristic wastes may only be diluted if the waste has a concentration-based treatment standard or is treated using the DEACT technology-based treatment standard, and the waste is not a D003 reactive waste. Knowledge of dilution will result in MDWTP and WDI managing the waste as prohibited from land disposal and proper treatment will occur.

A2.A.5 PRE-APPROVAL GENERATOR WASTE CHARACTERIZATION DISCREPANCIES

[R 299.9605(1) and R 299.9504(1)(c) and 40 CFR §§264.13(a)(3) and (4), 264.13(b)(c), and 264.72]

Waste streams are reviewed with respect to waste characterization requirements and the Land Disposal Restrictions (LDR) requirements in 40 CFR Part 268. Waste generators or individuals with the authority to make characterization and LDR decisions must certify information provided is representative, true and accurate. The analytical data, waste type, process description, waste chemical and physical characteristics provide the facility with sufficient information to decide if the waste can be accepted or if additional data is required before a decision can be reached. If the generator does not provide sufficient information, the generator or their representative is contacted and requested to provide further information before the approval process will continue.

The profile, with the supporting information as required, forms the basis of information upon which the facility determines if the waste can receive an approval for disposal at WDI or storage, transshipment and treatment at MDWTP. When it is determined that a waste stream can be safely handled at the facility in accordance with the operating license requirements, it is assigned a unique identification number. An approval letter is sent to the generator directly or via the customer, serving as notification that the waste as represented may be shipped to the facility, and that the facility has the appropriate permit(s) to accept the waste. All approval files are maintained in the facility operating record in an electronic, paper or other archival form. Approval files with no shipments received upon annual review will not be kept in the facility operating record.

A2.A.6 SUBSEQUENT WASTE SHIPMENT PROCEDURES
[R 299.9605(1) and R 299.9504(1)(c) and 40 CFR §§264.13(a)(3) and 264.13(b)(4)]

The facility requires that the profile, supporting information, and/or documentation be updated whenever any one of the following occur:

- ◆ There has been a change in the process generating the waste. When a change in a waste stream's characterization or treatment requirements occurs generators must provide notification of the change.
- ◆ Inspection of a waste shipment reveals that the waste does not meet the description/classification of the approval values.

The initial evaluation of waste from each generator will be reviewed or repeated at least once in a calendar year to ensure that the information provided is accurate and up-to-date.

A2.B PRE-ACCEPTANCE

A2.B.1 PRE-ACCEPTANCE PROCEDURES

[R 299.9605(1) and R 299.9504(1)(c), and 40 CFR §§264.13(c), 264.72(a) and (b), and 264.73(b)]

Waste shipments arrive at the facility in the following containers:

- | | | |
|--|---|---|
| <input checked="" type="checkbox"/> Drums | <input checked="" type="checkbox"/> Totes | <input checked="" type="checkbox"/> Tanker trucks |
| <input checked="" type="checkbox"/> Carboys | <input checked="" type="checkbox"/> Wrangler box | <input checked="" type="checkbox"/> Filter bags |
| <input checked="" type="checkbox"/> Roll-off boxes | <input checked="" type="checkbox"/> Vacuum trucks | |

Other: Dump trailer, Flo- bin, Cubic yard boxes, etc.

***All container types cannot be accounted for. Generators are responsible for ensuring waste is properly packaged for transportation. US Ecology does not have any container type restrictions in order to accommodate all waste types that may be generated.*

Each manifested line item receives a unique receipt number that contains approval information determined during the pre-approval process described above. During the pre-acceptance process MDWTP/WDI will perform all of the following tasks on waste received from off-site generators:

- Review paperwork
- Visually inspect the waste as required
- Perform waste screening/fingerprint analysis of waste as required

Discrepancy notifications will be made to the generator if the review process reveals inconsistencies with the paperwork or the waste. Once discrepancies are resolved the received waste will be accepted for treatment and disposal. If the discrepancy cannot be resolved, received waste will be rejected to the generator or an alternate facility.

A2.B.1(a) Paperwork Review

[R 299.9605(1) and R 299.9504(1)(c), and 40 CFR §§264.13(c), 264.72(a) and (b), and 264.73(b)]

All shipments of wastes subject to LDRs received at the facility will be accompanied by appropriate generator notification in accordance with R 299.9627 and 40 CFR §268.7 as well as an appropriate shipping paper. Complete shipping and LDR paperwork will be compared to information submitted by the generator during the pre-approval process to ensure the accuracy of information provided. The manifest will also be compared to the number of containers, the volume, and/or the weight of the waste in the shipment.

The notification accompanying the generator's waste will be reviewed, and any discrepancies in the notification and associated manifest, or waste approval information will prevent treatment or disposal unless additional, satisfactory, clarifying information is provided by the generator.

A2.B.1(b) Sampling Methods and Frequency

[R 299.9605(1) and R 299.9504(1)(c) and 40 CFR §§264.13(b)(14) and 264.13(c)(2)]

The sampling methods that will be used to obtain a representative sample of the waste to be evaluated and the sampling equipment and rationale are summarized in Table A2.B.1.

Upon completion of the paperwork review, non-bulk containers received are accounted for and placed in permitted storage area where waste screening sampling will occur. Except for material exempted in section A2.B.1(d), for shipments received from off-site locations MDWTP and WDI will visually inspect and sample at least 10 percent of the manifested container count from each unique non-bulk approval number per shipment. The separate samples collected will be composited by waste stream in the facility laboratory to form a single sample for analysis. Individual samples that are visually dissimilar will not be composited.

Bulk containers (i.e. roll- offs, end dumps, etc) are sampled upon arrival at the facility and are placed in permitted storage or directly into permitted treatment tanks. Except as exempted below, a grab sample will be taken from 100% of the manifested bulk containers from each unique approval number on a given manifest.

USEPA SW-846 will be followed, whenever possible, when choosing sampling equipment and methodologies. Sampling equipment is constructed of non-reactive materials. Care is taken in the selection of the sampler to prevent cross-contamination of the sample and to ensure compatibility of materials. If a method is not provided in USEPA SW-846, then a different method will be used as indicated Table A3.A.2. All equipment used in the collection of waste samples will either be disposable (e.g., scoops or container thieves) or sufficiently cleaned to remove observable contamination prior to sampling.

Table A2.B.1 Representative Sampling Procedures

Container Type or Material	Sampling Method ¹	Sampling Equipment	Rationale
Aqueous Waste	SW-846	Thieves Coliwasas	Chapter Nine of SW-846 Compendium: Sampling Plans
Solid, sludge, granular	SW-846	Auger Trier Scoops	

¹The sampling method should demonstrate equivalence with the sampling methods described in 40 CFR, Part 261, Appendix I.

A2.B.1(c) Waste Screening and Visual Inspection of Waste
 [R 299.9605(1) and R 299.9504(1)(c) and 40 CFR §264.13(c)]

Visual observations and screening results will be recorded and compared to the profiled information.

The contents of the container will be visually inspected for the following:

- Color Physical State Consistency

In addition to visual inspection, Table A2.B.2 identifies the waste screen procedures, including screening parameters, test methods, the appropriate reference, the frequency of waste screening, and the rationale for the frequency. The screening parameters are completed in order to compare waste characterization information with the waste receipt and verify the material received is as profiled.

A2.B.1(d) Sampling Methods and Frequency Exceptions
[R 299.9605(1) and R 299.9504(1)(c) and 40 CFR §§264.13(b)(14) and 264.13(c)(2)]

In some circumstances waste screening procedures may not be necessary in order to verify the waste matches the pre-approval information. For wastes from which no samples will be taken, a visual inspection will be performed to determine if the waste resembles the description provided in the approval. Waste streams that may cause an air quality or safety concern, such as the examples provided below, will not be opened for visual inspection. However, during the pre-approval process MDWTP and WDI will require certification that acceptance criteria are met.

Exceptions for the requirement of a sample include the following waste types:

- ◆ On-site generated waste
 - *Reason for exception:* The generating process and properties of the waste are well known and as a result waste screening procedures are not needed.
- ◆ Articles, equipment, clothing (such as personal protective equipment (PPE)) contaminated with chemicals; Debris and demolition wastes (40 CFR 268); Chemical-containing devices/articles, such as cathode ray tubes (CRTs), fluorescent lights, batteries; Equipment, machinery, pumps, piping, etc.; Empty containers. Containers are considered "empty" according to the criteria specified in R299.9207; Tanks (whole or cut);
 - *Reason for exception:* Visual inspection is an appropriate means of determining waste meets waste profiled information. Material cannot physically be sampled or representative samples cannot be collected.
- ◆ Spent activated carbon, filters from inside tanks, ion-exchange resins, molecular sieves, filters/cartridges;
 - *Reason for exception:* Visual inspection is an appropriate means of determining waste meets waste profiled information
- ◆ Discarded, off-specification, or out-dated commercial products.
 - *Reason for exception:* Properties of the waste can be determined through SDS and visual inspection can adequately determine if matches profiled information.
- ◆ Asbestos-containing waste; Waste potentially capable of causing detectable odor at the facility property line; Waste that by its hazardous nature may require more protective PPE. Examples include but are not limited to beryllium, hydrofluoric acid, and arsenic pentoxide; Wastes from food or animal processing; Animal feces; Non-putrescent medical waste that has been decontaminated or is not required to be decontaminated but is packaged in the manner required under part 138 of the public health code, 1978 PA 368, MCL 333.13801 to 333.13831 in order to land dispose Septage or sewer treatment plant sludge from domestic users;
 - *Reason for exception:* Reduces the risk of air quality or safety concern
- ◆ Waste streams approved by MDEQ on a case-by-case basis.

For some waste streams, it may be necessary to conduct the weight measurement and/or waste screening at an off-site location, such as the site of generation. These activities are performed by individuals trained on the WAP procedures that will be utilized. The results of the inspection and testing must be transmitted to the Receiving Department prior to the waste being treated or disposed (i.e. with the waste shipment or before). For these waste streams, a description of the off-site testing will be maintained on file at the facility

A2.B.2 PRE-ACCEPTANCE DISCREPANCY

If a resolution cannot be obtained waste may not be treated or disposed. A representative will be notified in order to resolve the discrepancy if the facility receives a shipment of waste without LDR notification or

shipping paperwork; if the paperwork contains incorrect or incomplete information. Discrepancies may result in changes that may require additional handling procedures or modifications to the paperwork or waste characterization. Additional samples for verification may be required to verify information provided by the generator or their representative.

If the discrepancy reveals the waste cannot be managed at MDWTP or WDI the waste may be transshipped to an alternate facility, or rejected to the generator or an alternate facility.

Table A2.B.2 Pre-Acceptance Analysis Procedures

Preacceptance: Incoming waste evaluation at the time of receipt to determine acceptability with permit conditions and handling procedures

Parameter	Parameter Rationale	Test Method	Reference	Frequency	Rationale for Frequency
Free Liquids	Verify presence of free liquids	Visual Inspection or Paint Filter Liquids Test	Visual ; SW846, 9095	As needed	Dependent on visual assessment
Ignitability	Verify ignitability	Flashpoint by Pensky-Martens or Setaflash	SW 846 1010A or SW 846 1020B	As needed	Verify match test result
Ignitability-Match Test	Verify potential for ignitability	Attempt to ignite gases or vapors emitting from waste	Internal Procedure	Each shipment	Verification for proper storage and handling.
Reactivity	Verify potential for adverse reaction	Water, caustic and acid addition to waste and monitor for adverse reaction	Internal Procedure	First shipment then as needed	Verification for proper storage and handling.
Compatibility (MDI Only)	Verify potential for adverse reaction	Waste and reagents will be mixed together in a mock tank. Tank will be monitored for adverse reactions such as significant gas production and extreme heat.	Internal Procedure	Each stabilization/oxidation tank	To avert the potential for an adverse reaction.
Radioactivity	Verify potential for radioactivity	Shipments will be compared to background radiation levels using in instrument capable of detecting gamma radiation	Internal Procedure	Each shipment	Verification of Waste characterization, confirmation that waste meets landfill disposal limits
Cyanide Screening	Verify potential of the presence of cyanides	SW846 9014 coloring method reagents are added to a mixture of water and waste. In the presence of cyanide color change will occur.	Pyridine-barbituric acid colorimetry screening	First shipment then as needed	Waste acceptability
PCB Screen	Verify presence of PCBs	Extraction and comparison to 1 point standard using GC	Internal Procedure	TSCA shipment incidental free liquids	Confirm incidental liquids and generator knowledge
Hydrogen Sulfide Screening	Verify presence of sulfide	Mix waste in cup with acid. Detect H2S gas with lead acetate paper or other appropriate device	Internal Procedure	First shipment then as needed	Waste acceptability
pH	Verify pH	If not visually apparent after looking at pH paper, an electronic measurement will be made.	SW846 9040	Each shipment	Confirm profile values

** Alternative methods may be required on a case by case basis in order to properly analyze the waste

A2.C WASTE ACCEPTANCE

A2.C.1 CONTAINERIZED WASTE

[R 299.9504(1)(c) and 40 CFR §264.172]

A2.C.1(a) Wastes Container Compatibility

All wastes received by the facility are expected to arrive in a DOT compliant container. If compatibility issues with the container are identified the contents of the container will be transferred to a more appropriate container or the container will be placed in an over pack drum.

Stored containerized waste is segregated according to 49 CFR Subpart C—Segregation and Separation Chart of Hazardous Materials segregation rules (See Table A2.C.1). Based on the hazard assessment of the waste, the containerized waste is organized into segregated storage areas within the NCSA, ECSA, SECSA and the East and West Loading/Unloading Bays. MDWTP takes precautions to prevent the accidental ignition or reaction of ignitable or reactive waste being stored or processed per the requirements of 40 CFR §264.17. This waste must be separated and protected from sources of ignition or reaction including but not limited to: open flames, smoking, cutting, and welding hot surfaces, frictional heat, sparks, spontaneous ignition, and radiant heat. WDI does not accept ignitable or reactive waste for storage or processing.

TABLE A2.C.1 Segregation and Separation Chart of Hazardous Materials

CLASS OR DIVISION		2.1	2.2	3	4.1	4.3	5.1	5.2	6.1*	8A	8B	9
Non-Flammable Gases	2.1	C	C	C	C	C	C	C	C	C	C	C
Non-Toxic, Non-Flammable Gases	2.2	C	C	C	C	C	C	C	C	C	C	C
Flammable Liquids	3	C	C	C	C	C	X	C	C	C	C	C
Flammable Solids	4.1	C	C	C	C	C	C	C	C	X	X	C
Dangerous when wet materials	4.3	C	C	C	C	C	C	C	C	X	X	C
Oxidizers	5.1	C	C	X	C	C	C	C	C	X	X	C
Organic Peroxides	5.2	C	C	C	C	C	C	C	C	X	X	C
Poisonous Liquids (NOT PG I, Zone A materials)	6.1*	C	C	C	C	C	C	C	C	C	C	C
Corrosive Liquids-Acids	8A	C	C	C	X	X	X	X	C	C	X	C
Corrosive Liquids-Bases	8B	C	C	C	X	X	X	X	C	X	C	C
Other Regulated Materials and Non-Hazardous Wastes	9	C	C	C	C	C	C	C	C	C	C	C

Notes:

✓ This chart is from the USDOT Segregation and Separation Chart of Hazardous Materials, 49 CFR Subpart C (177.848) & additionally segregates the corrosive wastes into acids and bases.

✓ Acids have a pH ≤ 2.0 and bases have a pH ≥ 12.5.

* = Other than Poisonous Liquids PG I, Zone A will not receive wastes with Class 1, or Division 2.3, 4.2, 6.1 PG I, Zone A Hazardous Material classifications.

C = Compatible

X = Non-Compatible

A2.C.1(b) Containers without Secondary Containment System

Containers holding waste without free liquids are exempt from secondary containment requirements. The presence of free liquids can be determined by visual inspection and/or using Paint Filter Liquids Test, Method 9095 in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," EPA Publication No. SW-846.

F020, F021, F022, F023, F026, and F027 waste streams with or without free liquids will only be stored in concrete container storage areas

A2.C.2 WASTE IN TANK SYSTEMS

[R 299.9504(1)(c) and 40 CFR §§264.190(a), 264.191(b)(2), 264.192(a)(2)]

A2.C.2(a) Tank Assignment (MDWTP)

During the pre-approval process treatment requirements are assessed based the concentrations of the constituents of concern and applicable waste codes and underlying hazardous constituents (UHC) that make up the waste. The generator LDR notification is used as verification of the contaminants present requiring treatment. Individual waste streams are consolidated into treatment tanks based on similar waste codes and treatment requirements.

A2.C.2(b) Waste Compatibility with and within Tanks

Compatibility testing as described in Table A2.A.2 evaluates the potential for reactions to occur inside the treatment tank. Samples from bulk and non-bulk containers are combined along with reagents to be used in the treatment process. If an adverse reaction occurs the waste mixtures are evaluated by qualified personnel to determine if changes are needed to the order in which the waste or reagents are added or if material needs to be managed separately.

Prior to transferring any wastes into a waste treatment tank, the compatibility of the wastes to be combined will be evaluated by mixing in a bench scale "mock tank." The parameters used to determine compatibility are briefly outlined below:

- ◆ Gas Evolution - Materials that upon mixing, appear to liberate excessive amounts of vapors, fumes, or mists, will not be combined.
- ◆ Heat Generation - Materials that, upon mixing, would generate excessive amounts of heat will not be combined.
- ◆ Adverse Reactions - Materials that, upon mixing, result in the formation of a large amount of sludge, or solidify or gel may not be combined if this causes a removal or subsequent handling problem.

As outlined in Attachment C2 Tank Systems, the waste treatment tanks are lined with steel. If waste has the potential to react with the tank construction materials, processing activities will account for this and the material will be managed to prevent ignition, reaction or release to the environment. For example, neutralizing reagents may be placed into the tank prior to waste placement.

A2.C.2(c) Tanks without Secondary Containment System

All liquid storage tanks at the facility are in secondary containment.

A2.C.3 WASTE BULKING AND/OR CONSOLIDATION COMPATIBILITY

Different like-wastes that are combined in a container, (excluding empty containers, debris or closed and intact containers of non-hazardous waste) are subjected to the same compatibility (Table A2.A.2) evaluations as applied to wastes that are mixed in the treatment tanks.

Pending compatibility confirmation, liquid and solid hazardous and non-hazardous wastes may be bulked or consolidated into larger or fewer containers in any MDWTP permitted storage area. If a roll-off box or other bulk reusable shipping container will be used for bulking or consolidation of listed hazardous waste to an off-site location, a liner will be utilized to prevent contamination when switching from listed wastes to characteristic wastes.

The following waste streams will not be bulked or consolidated: reactives, incompatibles and wastes that alone or when mixed are capable of causing excess odor at the facility property line.

A2.C.4 TRANSSHIPPED WASTE

Any waste to be transshipped off-site to other permitted TSDF's will be received under a valid approval. Waste will be sent to an authorized TSDF that can manage the material for treatment and/or disposal.

A2.D POST TREATMENT AND LAND DISPOSAL RESTRICTION

A2.D.1 TREATMENT FOR PURPOSE OF LAND DISPOSAL

[R 299.9627, R 299.9208, and R 299.9212 and 40 CFR §261.3(d)(1), 264.13(a)(1), 268.7, 268.9, 268.37, 268.40, 268.41, 268.42, and 268.43 and Part 268, Appendix I and Appendix IX]

As stated in the 1997 preamble, the ultimate objective of the LDR program is to ensure all of the hazardous waste to be land disposed is treated in a way that minimizes the threats that land disposal could pose. MDWTP treats wastes that require treatment to comply with the LDRs using well designed treatment methods such as stabilization, immobilization, neutralization, deactivation, oxidation, and/or reduction using such treatment reagents as inorganic binders (e.g., cement, fly ash, kiln dust), organic binders (e.g., activated carbon), ferrous sulfate, ferric chloride, sodium sulfide, acids, bases, oxidizers and/or reducing agents. Treatment reagents may be commercially available materials, other untreated waste (e.g., an acid waste used to treat a base waste and vice versa), and/or treated waste (e.g., a stabilized waste meeting LDRs used to absorb free liquids in a non-hazardous waste whose only required treatment is solidification to pass the paint filter test). Treatment of applicable waste codes and UHCs reasonably anticipated to be present at the point of generation as identified by the generator during the pre-approval process occurs in accordance with Attachment C4 Treatment. Table A2.D.1 details the recommended treatment that may occur for the characteristic category.

Table A2.D.1 Characteristic Treatment Identification

CHARACTERISTIC	TREATMENT
Ignitable waste	Deactivation 40CFR Part 268 Appendix VI
Oxidizer	Deactivation 40CFR Part 268 Appendix VI
Corrosive	Deactivation 40CFR Part 268 Appendix VI
Reactive	Deactivation 40CFR Part 268 Appendix VI or an equivalent
Metal bearing waste	Stabilization, Precipitation, Chemical Reduction
Cyanide bearing waste	Chemical Oxidation
SVOC and VOC bearing waste	Chemical Oxidation
Pesticide/Herbicide Bearing Waste	Chemical Oxidation
Hazardous Debris	Immobilization

Constituents that do not qualify as UHCs in the original waste, but are concentrated to above UTS levels during treatment are not required to meet UTS levels in the treatment residual. If after treatment a hazardous waste displays a characteristic for the first time, the characteristic waste code will be added to facility records. Wastes will be retreated, as appropriate, to meet the applicable characteristic treatment standards of 40 CFR 268.40 and 268.48 or an alternative treatment standard specified in §40 CFR 268.44-49, prior to land disposal (Federal Register 64:90 (11 May 1999)).

A2.D.2 LAND DISPOSAL RESTRICTIONS

[R 299.9627, R 299.9208, and R 299.9212 and 40 CFR §261.3(d)(1), 264.13(a)(1), 268.7, 268.9, 268.37, 268.40, 268.41, 268.42, and 268.43 and Part 268, Appendix I and Appendix IX]

In accordance 40 CFR 268.40, prohibited waste identified in the table “Treatment Standards for Hazardous Wastes” may be land disposed at WDI or another authorized landfill only if it meets the requirements found in the table. Hazardous constituents in waste or in treatment residual will be disposed of only if the following applicable conditions are met:

- All hazardous constituents in the waste or in the treatment residue must be at or below the values found in the table for that waste (“total waste standards”); or
- The hazardous constituents in the extract (Method 1311, the Toxicity Characteristic Leaching Procedure (TCLP) is utilized except for D004 and D008 which may also utilize 1310B) of the waste or in the extract of the treatment residue must be at or below the values found in the table (“waste extract standards”); or
- The waste must be treated using the technology specified in the table (“technology standard”), which are described in detail in § 268.42, Table 1 Technology Codes and Description of Technology-Based Standards.

Applicable alternative treatment standard specified in §40 CFR 268.44-49 may be applied to waste or treatment residual. When wastes with differing treatment standards for a constituent of concern are combined for purposes of treatment, the treatment residue will meet the lowest treatment standard for the constituent of concern.

A2.D.2(a) Characteristic Wastes

Characteristic waste codes acceptable for storage, treatment and disposal are outlined in Appendix A. Waste codes will be treated to treatment standards identified in 40 CFR 268.40. In addition to the waste codes, underlying hazardous constituents reasonably anticipated to be present at the point of generation will be treated to universal treatment standards (UTS) found in 40 CFR 268.48. Upon treatment and the appropriate demonstration that the waste has met applicable LDRs or has been appropriately decharacterized waste will be landfilled.

A2.D.2(b) Listed Wastes

[R 299.9627, R 299.9213, and R 299.9214 and 40 CFR, Sections 264.13(a)(1), 268.7, 268.30, 268.31, 268.33, 268.34, 268.35, 268.36, 268.39, 268.40, 268.41, 268.42, and 268.43]

Generator process knowledge strongly determines the applicability of the listed waste code. Listed waste codes acceptable for storage, treatment and disposal are outlined in Appendix A. Unless delisting provisions are applicable to the listed waste code, once applicable treatment standards are met listed waste will be disposed of in a Subtitle C landfill.

The treatment standard for F001-F005 constituent’s carbon disulfide, cyclohexanone, and/or methanol requires compliance to be measured for these constituents as waste extract utilizing Method 1311 as required by 40 CFR 268.40(f). If the waste contains any other F001-F005 in addition to any of these three constituents, compliance with the treatment standards for carbon disulfide, cyclohexanone, and/or methanol is not required.

Dioxin waste (F020-F023, F026-F028, K043 and K099) are acceptable for disposal at WDI and may be present in waste processed at MDWTP, as so long as applicable LDRs are met. Waste accepted for treatment will receive treatment for other constituents subject to LDRs, but MDWTP does not perform treatment or analysis of dioxins.

A2.D.2(c) Laboratory Packs

[R 299.9627 and 40 CFR §268.7, 268.42(c) and Part 268, Appendix IV and Appendix V]

- The laboratory packs generated at the facility are not land disposed without meeting applicable Subpart D treatment standards

Lab pack waste generated with an LDR requesting lab pack alternatives to Subpart D treatment standards, will be transshipped offsite for incineration in accordance with 268.42(c). Lab packs received with the appropriate LDR designation indicating the compliance status of Subpart D treatment standards may be received processed to applicable 268.40 treatment standards.

A2.D.2(d) Radioactive Mixed Waste

[R 299.9627 and 40 CFR §§268.7, 268.35(c), 268.35(d), 268.36, and 268.42(d)]

The facility does not generate radioactive mixed waste.

See Appendix B Radiological Waste Acceptance Criteria for acceptable waste.

A2.D.2(e) Contaminated Debris

[R 299.9627 and 40 CFR §§268.2(g), 268.7, 268.9, 268.36, 268.45, and 270.13(n)]

Hazardous debris that exhibits the characteristics of ignitability, corrosivity, or reactivity will be treated using one of the extraction, destruction, or immobilization technologies identified in Table 1 of 40 CFR §268.45. MDWTP does not knowingly accept hazardous debris deliberately mixed with non-debris hazardous waste in order to change the treatment classification.

MDWTP treats hazardous debris in accordance to immobilization technologies specified in 40 CFR 268.45, where there are no contaminant restrictions for the immobilization technologies nor are there limitations on the type of debris that that may be treated by the immobilization technologies.

When macroencapsulation or sealing is the applied immobilization technology, treatment may be performed in the MDWTP treatment tanks or any of the container storage areas.

A2.D.2(f) Waste Mixtures and Wastes with Overlapping Requirements

[R 299.9627 and 40 CFR §§264.13(a), 268.7, 268.41(b), 268.43(b), and 268.45(a)]

Wastes that carry more than one characteristic will be identified with a number for each characteristic and treated for each of the constituents of concern. The presence of a listed code or use of a treatment method or standard requiring Subtitle C disposal will result in disposal at WDI or an alternative Subtitle C landfill.

If immobilization is used in a treatment train, it will be the last treatment technology applied. Hazardous debris will be treated for each contaminant subject to treatment as specified by 40 CFR 268.45(b) for toxicity characteristic debris and debris contaminated with listed wastes.

A2.D.2(g) Dilution and Aggregation of Wastes

[R 299.9627 and 40 CFR §268.3]

Listed wastes, if destined for land disposal, may not be diluted in order to meet LDRs from the point of generation to the point of land disposal. Characteristic wastes may only be diluted if (1) the waste is managed in a CWA/CWA-equivalent surface unit or a Class I Safe Drinking Water Act injection well, (2) the waste has a concentration-based treatment standard or is treated using the DEACT technology-based treatment standard, and (3) the waste is not a D003 reactive waste.

The facility does not dilute or partially treat a listed waste to change its treatability category (i.e., from nonwastewater to wastewater), in order to comply with different treatment standards. MDWTP may combine different wastes for like treatment (e.g., a D007 waste may be combined with a D008 waste for

stabilization). If the wastes are all amenable to the same type of treatment to be performed, the facility may combine wastes to perform the acceptable treatment.

A2.D.3 POST-TREATMENT SAMPLING AND ANALYSIS (MDWTP)

In accordance with the LDR regulations, wastes with concentration-based treatment standards must be evaluated to determine if applicable constituent concentration levels have been attained. This can be accomplished by either (1) testing the waste or (2) using knowledge (such as information provided on the waste characterization form, knowledge of the process or materials used to produce the waste, or knowledge of an effective treatment recipe) when appropriate, to determine whether the treated waste meets the applicable LDR treatment standards specified in R 299.9627 and 40 CFR §§268.41-43 or alternative treatment standards specified in §§268.44-49.

Treated waste will be sampled from the MDWTP treatment tanks in order to verify that the waste meets the applicable LDR numeric-concentrations prior to land disposal. Consistent with 40 CFR 268.40(b), compliance with LDR numeric-concentrations based treatment standards for non-wastewaters is determined using one grab sample (a one-time sample taken from any part of the waste) collected from a random vertical and horizontal location using an excavator to reach the selected sampling point, collecting the sample from the excavator bucket with a disposable scoop or cup. Using grab sampling to measure compliance with the treatment standards ensures conformity with LDR program goals such that all of the hazardous waste to be land disposed is treated to minimize the threats to human health and the environment (62 FR 26041, 26047; May 12, 1997). In addition, grab samples normally reflect maximum process variability, and thus reasonably characterize the range of treatment system performance (54 FR 26594, 26605; June 23, 1989). EPA established treatment standards for prohibited wastes based on grab sampling. The universal treatment standard for non-wastewaters are consequently enforced on the basis of grab sampling, and in turn is how MDWTP confirms treatment standards have been met.

The sample is then taken to the laboratory for analysis. Table A2.D.2 outlines the test methods that will be utilized to verify LDR. Limits of quantitation are set below treatment standards of the specific compound being analyzed in order to quantify concentrations in order to demonstrate concentrations are below UTS levels. Treatment batch residues, resulting from the treatment operations that exceed the applicable LDRs, are reevaluated. Options include re-testing after additional cure time, retreating on-site until the LDRs are achieved or sending the batch off-site for further treatment to meet the LDRs.

A2.D.4 DOCUMENTATION OF VARIATIONS ON TEST METHODS USED FOR WASTE ANALYSIS

For the purposes of waste characterization and LDR verification, MDI analyzes mercury in waste extracts using a modified version of USEPA 245.7 with QAQC procedures outlined by Method 7470A (SW-846): Mercury in Liquid Waste (Manual Cold-Vapor Technique. USEPA 245.7 was developed for wastewater and drinking water standards and is designed with lower detection and calibration levels than required by RCRA. As a result the parts per trillion (ppt) levels desired by the method have been modified to parts per billion (ppb) to comply with mercury's LDR concentration of 25 ppb. The low levels required by the method are achieved through handling procedures and reagent concentrations defined by the method. Instead reagent concentrations have been increased, and handling procedure defined in SW-846 are utilized.

TABLE A2.D.2 LAND DISPOSAL RESTRICTION VERIFICATION

Land Disposal Restriction (LDR): Verification applicable 40 CFR 268 LDRs are met or prohibited from land disposal

Parameter	Rationale	Test Method	Reference	Frequency	Rationale for Frequency
Land Disposal Restrictions (LDR)	Verify applicable 40 CFR 268 treatment standards are met	See metals/mercury, VOC, SVOC, Pesticide, and Herbicide parameters.	See applicable parameter below		
Ignitability	Verify Deactivation	Flashpoint by Pensky-Martens or Setflash	SW 846 1010A or SW 846 1020B		
Reactivity	Verify Deactivation	Water, caustic and acid addition to waste and monitor for adverse reaction	Internal Procedure		
pH	Verify Neutralization	If not visually apparent after looking at pH paper, an electronic measurement will be made. Full SW846 method used when characterizing waste	SW846 9040		
Free Liquids	Verify free liquids are not present for purposes of disposal	Paint Filter Liquids Test	SW846, 9095		
Cyanide	Verify applicable 40 CFR 268 treatment standards are met	Total and Amenable Cyanide: Distillation; Cyanide in Waters and Extracts Using Trimetric and Manual Spectrophotometric Procedures	SW846 9010 and 9014	Each tank as needed based on applicable properties and contaminants of concern.	Wastes with concentration-based treatment standards must be evaluated to determine if applicable constituent concentration levels have been attained. This can be accomplished by either (1) testing the waste or (2) using knowledge.
Sulfide	Verify Deactivation	Addition of water and caustic to verify hydrogen sulfide generation above thresholds that are harmful to human health and the environment	Internal Procedure		
PCB	Verify applicable 40 CFR 268 treatment standards are met	PCBs by GC	SW846 8082		
Metals/Mercury	Verify applicable 40 CFR 268 treatment standards are met	Solid or liquid digestion procedure followed by analysis	SW846 6010, SW846 7473, 245.7M		
Semi-volatiles	Verify applicable 40 CFR 268 treatment standards are met	Solid or liquid extraction procedure followed by analysis on GC	SW846 8270		
Volatiles	Verify applicable 40 CFR 268 treatment standards are met	Solid or liquid extraction procedure followed by analysis on GC	SW846 8260, 8015 (non-halogenated compounds)		
Pesticides	Verify applicable 40 CFR 268 treatment standards are met	Solid or liquid extraction procedure followed by analysis on GC	SW846 8081		
Herbicides	Verify applicable 40 CFR 268 treatment standards are met	Solid or liquid extraction procedure followed by analysis on GC	SW846 8151, 8270		

** Alternative methods may be required on a case by case basis in order to properly analyze the waste

A2.E LANDFILLED WASTES

[R 99.9504(1)(c) and 40 CFR §§264.13(c)(3) and 264.314]

A2.E.1 CONTAINERIZED OR BULK WASTES

Prior to landfilling, waste is inspected for the presence of free liquids. The presence of free liquids can be determined by visual inspection and/or using Paint Filter Liquids Test, Method 9095 in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," EPA Publication No. SW-846.

A2.E.2 PROCEDURES TO DETERMINE ADDITION OF BIODEGRADABLE SORBENT

The presence of biodegradable sorbents is identified from the waste characterization form and through visual inspection and sampling of incoming waste. MDWTP/WDI do not add biodegradable sorbents to any onsite generated waste

A3.E.3 WASTE SHIPPED TO SUBTITLE C FACILITIES

[R 299.9627 and 40 CFR §§268.7(a) and 268.7(b)(6)]

For restricted waste or waste treatment residues that will be further managed at a Subtitle C (hazardous waste management) facility, the facility will submit notifications and certifications in compliance with the notice and certification requirements applicable to generators under R 299.9627 and 40 CFR §268.7(a) and (b)(6).

A3.E.4 WASTE SHIPPED TO SUBTITLE D FACILITIES

[R 299.9627 and 40 CFR §§268.7(d) and 268.9(d)]

If the facility may ship nonhazardous and decharacterized waste to a Subtitle D facility, the facility will submit a one-time notification and certification for characteristic wastes, or listed wastes that are listed only because they exhibit a characteristic, that have been treated to remove the hazardous characteristic and are no longer considered hazardous. The facility will place a certification and all treatment records in the facility's file. The notification and certification will be updated if the process or operation generating the waste changes and/or if the Subtitle D facility receiving the waste changes.

A3.E.5 RECYCLABLE MATERIALS

[R 299.9627 and 40 CFR §268.7(b)(7)]

For wastes that are recyclable materials used in a manner constituting disposal, in accordance with R 299.9206 and 40 CFR §266.20(b), the facility will submit a notice and certification to the Director, or delegated representative, with each shipment of waste describing the waste and applicable treatment standards and identifying the facility receiving the waste. Recyclable materials may be stored and transshipped from MDWTP.

Materials from offsite sources that are beneficially reused by MDWTP for waste treatment (e.g., kiln dust, ferrous sulfate) alter the physical and/or chemical properties of the original materials such that the originally received material no longer exists and therefore does not qualify as land application. Thus such beneficially reused materials qualify as recycling and are not subject to RCRA waste management requirements.

A2.F NOTIFICATION, CERTIFICATION, AND RECORDKEEPING REQUIREMENTS

[R 299.9627 and R 299.9609 and 40 CFR §§264.73, 268.7, and 268.9(d)]

A2.F.1 RETENTION OF GENERATOR NOTICES AND CERTIFICATIONS

[R 299.9627 and 40 CFR §268.7(a)(7)]

MDWTP/WDI will retain a copy of all notices, certifications, demonstrations, data, and other documentation associated with compliance to LDRs as described in A2.F.6.

The following notices and certifications submitted by the initial generator of the waste will be reviewed and maintained:

- Notices of restricted wastes not meeting treatment standards or exceeding levels specified in RCRA §3004(d), including the information listed in R 299.9627 and 40 CFR §268.7(a)(1).
- Notices of restricted wastes meeting applicable treatment standards and prohibition levels, including the information in R 299.9627 and 40 CFR §268.7(a)(2).

A2.F.2 NOTIFICATION AND CERTIFICATION REQUIREMENTS FOR TREATMENT FACILITIES

[R 299.9627, 299.9608 and 40 CFR §268.7(b), 40 CFR 264.71]

The treatment facility will submit a notice and certification to the land disposal facility with each shipment of restricted waste or treatment residue of a restricted waste. The notice will include the information specified in R 299.9627 and 40 CFR §§268.7(b)(4) and 268.7(b)(5).

If the waste or treatment residue will be further managed at a different treatment or storage facility, the facility will comply with the notice and certification requirements applicable to generators as specified in R 299.9627 and 40 CFR §268.7(b)(6).

If a significant manifest discrepancy is discovered (such as variation in one-piece count or misrepresentation of the type of waste or corrosive rather than flammable) that cannot be resolved with the generator or transporter within 15 days of receipt, facility personnel will submit to the Director and/or manifest processing division, a letter describing the discrepancy and all attempts to reconcile the discrepancy. The letter will include a copy of the discrepant manifest or shipping document.

A legible copy of the manifest will be sent to the manifest processing division as specified in R 299.9608 and the generator within 30 days of receiving the waste.

A2.F.3 RECORD KEEPING

[R 299.9608(4), R 299.9609, R 299.9610(3), and R 299.9627 and 40 CFR §§264.72, 264.73, 268.7(a)(5), 268.7(a)(6), 268(a)(7), and 268.7(d)]

MDWTP/WDI maintains a facility operating log in accordance with R 299.9609 and 40 CFR §264.73. Copies of all necessary notifications and certifications, as well as relevant inspection forms and monitoring data, are also maintained on file in hard copy form or electronically at the facility. The operating log is maintained as follows:

Maintained in the operating log in hard copy or electronic format for three years unless specified otherwise:

- Off-site manifest or shipping paper, as well as the original foreign movement document
- Records and results of waste analyses and waste determinations performed for onsite waste characterization and LDR compliance.
- Summary reports and details of all incidents that require implementing the contingency plan.
- For off-site facilities, notices to generators.
- Records and results off inspections required by Attachment A5 Inspection Schedule.
- Waste minimization certification.
- LDR generator notices and TSDF certifications and demonstration, including notices of exclusion from the definition of hazardous waste, solid waste, or Subtitle C regulation required by 40 CFR 268.7 that
- Onsite generated waste LDR notice and certification and demonstration.
- Monitoring, testing or analytical data, and corrective action required as a result of a release.
- Foreign source notice
- Major manifest discrepancy notifications

Items kept in hard copy or electronic format until the closure of the facility include:

- A description and the quantity of each hazardous waste received, and the method(s) and date(s) of its treatment, storage, or disposal.
- For each day that waste is placed into the WDI landfill, a record showing the coordinates within which waste was placed.
- Ground water cleanup, monitoring, testing or analytical data, and corrective action required as a result of a release.
- Closure cost/postclosure cost estimate.
- Certifications of major changes to a tank system.

A2.F.7 REQUIRED NOTICE

[R 299.9605(1) and 40 CFR §264.12(a) and (b)]

When the facility is to receive hazardous waste from an off-site source, the facility will inform the generator in writing that the facility has the appropriate license for and will accept the waste the generator is shipping. The facility will keep a copy of this written notice in the operating record as described in A3.C.6.

Hazardous waste from a foreign source Subject to 40 CFR 262, Subpart H must submit the following notices:

- A copy of the movement document bearing all required signatures within 3 working days of receipt of the shipment to the foreign exporter; to the competent authorities of the countries of export and transit that control the shipment as an export and transit shipment of hazardous waste respectively; and on or after the electronic import-export reporting compliance date, to EPA electronically using EPA's Waste Import Export Tracking System (WIETS), or its successor system
- Waste imported from a foreign source where the competent authority of the country of export does not require the foreign exporter to submit to it a notification proposing export and obtain consent from EPA and the competent authorities for the countries of transit, such owner or operator of the facility, if acting as the importer, must provide notification of the proposed transboundary movement in English to EPA at least 60 days before the first shipment departs the country of export. The notification may cover up to one year of shipments of wastes having similar physical and chemical characteristics, the same United Nations classification, the same RCRA waste codes and OECD waste codes, and being sent from the same foreign exporter.

APPENDIX A
HAZARDOUS WASTES ACCEPTED AT THE FACILITY

**XIII. DESCRIPTION OF HAZARDOUS WASTES
MICHIGAN DISPOSAL WASTE TREATMENT PLANT
MID 000724831**

LINE NO.	A. EPA HAZARDOUS WASTECODE	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE	D1 . PROCESS CODES			D2. PROCESS DESCRIPTION
				S01	S02	T01	
1	D001	285,224,160	G	S01	S02	T01	
2	D002	285,224,160	G	S01	S02	T01	
3	D003	285,224,160	G	S01	S02	T01	
4	D004	285,224,160	G	S01	S02	T01	
5	D005	285,224,160	G	S01	S02	T01	
6	D006	285,224,160	G	S01	S02	T01	
7	D007	285,224,160	G	S01	S02	T01	
8	D008	285,224,160	G	S01	S02	T01	
9	D009	285,224,160	G	S01	S02	T01	
10	D010	285,224,160	G	S01	S02	T01	
11	D011	285,224,160	G	S01	S02	T01	
12	D012	285,224,160	G	S01	S02	T01	
13	D013	285,224,160	G	S01	S02	T01	
14	D014	285,224,160	G	S01	S02	T01	
15	D015	285,224,160	G	S01	S02	T01	
16	D016	285,224,160	G	S01	S02	T01	
17	D017	285,224,160	G	S01	S02	T01	
18	D018	285,224,160	G	S01	S02	T01	
19	D019	285,224,160	G	S01	S02	T01	
20	D020	285,224,160	G	S01	S02	T01	
21	D021	285,224,160	G	S01	S02	T01	
22	D022	285,224,160	G	S01	S02	T01	
23	D023	285,224,160	G	S01	S02	T01	
24	D024	285,224,160	G	S01	S02	T01	
25	D025	285,224,160	G	S01	S02	T01	
26	D026	285,224,160	G	S01	S02	T01	
27	D027	285,224,160	G	S01	S02	T01	
28	D028	285,224,160	G	S01	S02	T01	
29	D029	285,224,160	G	S01	S02	T01	
30	D030	285,224,160	G	S01	S02	T01	
31	D031	285,224,160	G	S01	S02	T01	
32	D032	285,224,160	G	S01	S02	T01	
33	D033	285,224,160	G	S01	S02	T01	
34	D034	285,224,160	G	S01	S02	T01	
35	D035	285,224,160	G	S01	S02	T01	
36	D036	285,224,160	G	S01	S02	T01	
37	D037	285,224,160	G	S01	S02	T01	
38	D038	285,224,160	G	S01	S02	T01	
39	D039	285,224,160	G	S01	S02	T01	
40	D040	285,224,160	G	S01	S02	T01	
41	D041	285,224,160	G	S01	S02	T01	
42	D042	285,224,160	G	S01	S02	T01	
43	D043	285,224,160	G	S01	S02	T01	
44	F001	285,224,160	G	S01	S02	T01	
45	F002	285,224,160	G	S01	S02	T01	
46	F003	285,224,160	G	S01	S02	T01	
47	F004	285,224,160	G	S01	S02	T01	
48	F005	285,224,160	G	S01	S02	T01	
49	F006	285,224,160	G	S01	S02	T01	

**XIII. DESCRIPTION OF HAZARDOUS WASTES
MICHIGAN DISPOSAL WASTE TREATMENT PLANT
MID 000724831**

LINE NO.	A. EPA HAZARDOUS WASTECODE	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE	D1. PROCESS CODES			D2. PROCESS DESCRIPTION
				S01	S02	T01	
50	F007	285,224,160	G	S01	S02	T01	
51	F008	285,224,160	G	S01	S02	T01	
52	F009	285,224,160	G	S01	S02	T01	
53	F010	285,224,160	G	S01	S02	T01	
54	F011	285,224,160	G	S01	S02	T01	
55	F012	285,224,160	G	S01	S02	T01	
56	F019	285,224,160	G	S01	S02	T01	
57	F020	285,224,160	G	S01	S02	T01	
58	F021	285,224,160	G	S01	S02	T01	
59	F022	285,224,160	G	S01	S02	T01	
60	F023	285,224,160	G	S01	S02	T01	
61	F024	285,224,160	G	S01	S02	T01	
62	F025	285,224,160	G	S01	S02	T01	
63	F026	285,224,160	G	S01	S02	T01	
64	F027	285,224,160	G	S01	S02	T01	
65	F028	285,224,160	G	S01	S02	T01	
66	F032	285,224,160	G	S01	S02	T01	
67	F034	285,224,160	G	S01	S02	T01	
68	F035	285,224,160	G	S01	S02	T01	
69	F037	285,224,160	G	S01	S02	T01	
70	F038	285,224,160	G	S01	S02	T01	
71	F039	285,224,160	G	S01	S02	T01	
72	K001	285,224,160	G	S01	S02	T01	
73	K002	285,224,160	G	S01	S02	T01	
74	K003	285,224,160	G	S01	S02	T01	
75	K004	285,224,160	G	S01	S02	T01	
76	K005	285,224,160	G	S01	S02	T01	
77	K006	285,224,160	G	S01	S02	T01	
78	K007	285,224,160	G	S01	S02	T01	
79	K008	285,224,160	G	S01	S02	T01	
80	K009	285,224,160	G	S01	S02	T01	
81	K010	285,224,160	G	S01	S02	T01	
82	K011	285,224,160	G	S01	S02	T01	
83	K013	285,224,160	G	S01	S02	T01	
84	K014	285,224,160	G	S01	S02	T01	
85	K015	285,224,160	G	S01	S02	T01	
86	K016	285,224,160	G	S01	S02	T01	
87	K017	285,224,160	G	S01	S02	T01	
88	K018	285,224,160	G	S01	S02	T01	
89	K019	285,224,160	G	S01	S02	T01	
90	K020	285,224,160	G	S01	S02	T01	
91	K021	285,224,160	G	S01	S02	T01	
92	K022	285,224,160	G	S01	S02	T01	
93	K023	285,224,160	G	S01	S02	T01	
94	K024	285,224,160	G	S01	S02	T01	
95	K025	285,224,160	G	S01	S02	T01	
96	K026	285,224,160	G	S01	S02	T01	
97	K027	285,224,160	G	S01	S02	T01	
98	K028	285,224,160	G	S01	S02	T01	

**XIII. DESCRIPTION OF HAZARDOUS WASTES
MICHIGAN DISPOSAL WASTE TREATMENT PLANT
MID 000724831**

LINE NO.	A. EPA HAZARDOUS WASTECODE	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE	D1 . PROCESS CODES			D2. PROCESS DESCRIPTION
				S01	S02	T01	
99	K029	285,224,160	G	S01	S02	T01	
100	K030	285,224,160	G	S01	S02	T01	
101	K031	285,224,160	G	S01	S02	T01	
102	K032	285,224,160	G	S01	S02	T01	
103	K033	285,224,160	G	S01	S02	T01	
104	K034	285,224,160	G	S01	S02	T01	
105	K035	285,224,160	G	S01	S02	T01	
106	K036	285,224,160	G	S01	S02	T01	
107	K037	285,224,160	G	S01	S02	T01	
108	K038	285,224,160	G	S01	S02	T01	
109	K039	285,224,160	G	S01	S02	T01	
110	K040	285,224,160	G	S01	S02	T01	
111	K041	285,224,160	G	S01	S02	T01	
112	K042	285,224,160	G	S01	S02	T01	
113	K043	285,224,160	G	S01	S02	T01	
114	K044	285,224,160	G	S01	S02	T01	
115	K045	285,224,160	G	S01	S02	T01	
116	K046	285,224,160	G	S01	S02	T01	
117	K047	285,224,160	G	S01	S02	T01	
118	K048	285,224,160	G	S01	S02	T01	
119	K049	285,224,160	G	S01	S02	T01	
120	K050	285,224,160	G	S01	S02	T01	
121	K051	285,224,160	G	S01	S02	T01	
122	K052	285,224,160	G	S01	S02	T01	
123	K060	285,224,160	G	S01	S02	T01	
124	K061	285,224,160	G	S01	S02	T01	
125	K062	285,224,160	G	S01	S02	T01	
126	K064	285,224,160	G	S01	S02	T01	
127	K065	285,224,160	G	S01	S02	T01	
128	K066	285,224,160	G	S01	S02	T01	
129	K069	285,224,160	G	S01	S02	T01	
130	K071	285,224,160	G	S01	S02	T01	
131	K073	285,224,160	G	S01	S02	T01	
132	K083	285,224,160	G	S01	S02	T01	
133	K084	285,224,160	G	S01	S02	T01	
134	K085	285,224,160	G	S01	S02	T01	
135	K086	285,224,160	G	S01	S02	T01	
136	K087	285,224,160	G	S01	S02	T01	
137	K088	285,224,160	G	S01	S02	T01	
138	K090	285,224,160	G	S01	S02	T01	
139	K091	285,224,160	G	S01	S02	T01	
140	K093	285,224,160	G	S01	S02	T01	
141	K094	285,224,160	G	S01	S02	T01	
142	K095	285,224,160	G	S01	S02	T01	
143	K096	285,224,160	G	S01	S02	T01	
144	K097	285,224,160	G	S01	S02	T01	
145	K098	285,224,160	G	S01	S02	T01	
146	K099	285,224,160	G	S01	S02	T01	
147	K100	285,224,160	G	S01	S02	T01	

**XIII. DESCRIPTION OF HAZARDOUS WASTES
MICHIGAN DISPOSAL WASTE TREATMENT PLANT
MID 000724831**

LINE NO.	A. EPA HAZARDOUS WASTECODE	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE	D1 . PROCESS CODES			D2. PROCESS DESCRIPTION
				S01	S02	T01	
148	K101	285,224,160	G	S01	S02	T01	
149	K102	285,224,160	G	S01	S02	T01	
150	K103	285,224,160	G	S01	S02	T01	
151	K104	285,224,160	G	S01	S02	T01	
152	K105	285,224,160	G	S01	S02	T01	
153	K106	285,224,160	G	S01	S02	T01	
154	K107	285,224,160	G	S01	S02	T01	
155	K108	285,224,160	G	S01	S02	T01	
156	K109	285,224,160	G	S01	S02	T01	
157	K110	285,224,160	G	S01	S02	T01	
158	K111	285,224,160	G	S01	S02	T01	
159	K112	285,224,160	G	S01	S02	T01	
160	K113	285,224,160	G	S01	S02	T01	
161	K114	285,224,160	G	S01	S02	T01	
162	K115	285,224,160	G	S01	S02	T01	
163	K116	285,224,160	G	S01	S02	T01	
164	K117	285,224,160	G	S01	S02	T01	
165	K118	285,224,160	G	S01	S02	T01	
166	K123	285,224,160	G	S01	S02	T01	
167	K124	285,224,160	G	S01	S02	T01	
168	K125	285,224,160	G	S01	S02	T01	
169	K126	285,224,160	G	S01	S02	T01	
170	K131	285,224,160	G	S01	S02	T01	
171	K132	285,224,160	G	S01	S02	T01	
172	K136	285,224,160	G	S01	S02	T01	
173	K141	285,224,160	G	S01	S02	T01	
174	K142	285,224,160	G	S01	S02	T01	
175	K143	285,224,160	G	S01	S02	T01	
176	K144	285,224,160	G	S01	S02	T01	
177	K145	285,224,160	G	S01	S02	T01	
178	K147	285,224,160	G	S01	S02	T01	
179	K148	285,224,160	G	S01	S02	T01	
180	K149	285,224,160	G	S01	S02	T01	
181	K150	285,224,160	G	S01	S02	T01	
182	K151	285,224,160	G	S01	S02	T01	
183	K156	285,224,160	G	S01	S02	T01	
184	K157	285,224,160	G	S01	S02	T01	
185	K158	285,224,160	G	S01	S02	T01	
186	K159	285,224,160	G	S01	S02	T01	
187	K160	285,224,160	G	S01	S02	T01	
188	K161	285,224,160	G	S01	S02	T01	
189	K169	285,224,160	G	S01	S02	T01	
190	K170	285,224,160	G	S01	S02	T01	
191	K171	285,224,160	G	S01	S02	T01	
192	K172	285,224,160	G	S01	S02	T01	
193	K174	285,224,160	G	S01	S02	T01	
194	K175	285,224,160	G	S01	S02	T01	
195	K176	285,224,160	G	S01	S02	T01	
196	K177	285,224,160	G	S01	S02	T01	

**XIII. DESCRIPTION OF HAZARDOUS WASTES
MICHIGAN DISPOSAL WASTE TREATMENT PLANT
MID 000724831**

LINE NO.	A. EPA HAZARDOUS WASTECODE	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE	D1 . PROCESS CODES			D2. PROCESS DESCRIPTION
				S01	S02	T01	
197	K178	285,224,160	G	S01	S02	T01	
198	K181	285,224,160	G	S01	S02	T01	
199	P001	285,224,160	G	S01	S02	T01	
200	P002	285,224,160	G	S01	S02	T01	
201	P003	285,224,160	G	S01	S02	T01	
202	P004	285,224,160	G	S01	S02	T01	
203	P005	285,224,160	G	S01	S02	T01	
204	P006	285,224,160	G	S01	S02	T01	
205	P007	285,224,160	G	S01	S02	T01	
206	P008	285,224,160	G	S01	S02	T01	
207	P009	285,224,160	G	S01	S02	T01	
208	P010	285,224,160	G	S01	S02	T01	
209	P011	285,224,160	G	S01	S02	T01	
210	P012	285,224,160	G	S01	S02	T01	
211	P013	285,224,160	G	S01	S02	T01	
212	P014	285,224,160	G	S01	S02	T01	
213	P015	285,224,160	G	S01	S02	T01	
214	P016	285,224,160	G	S01	S02	T01	
215	P017	285,224,160	G	S01	S02	T01	
216	P018	285,224,160	G	S01	S02	T01	
217	P020	285,224,160	G	S01	S02	T01	
218	P021	285,224,160	G	S01	S02	T01	
219	P022	285,224,160	G	S01	S02	T01	
220	P023	285,224,160	G	S01	S02	T01	
221	P024	285,224,160	G	S01	S02	T01	
222	P026	285,224,160	G	S01	S02	T01	
223	P027	285,224,160	G	S01	S02	T01	
224	P028	285,224,160	G	S01	S02	T01	
225	P029	285,224,160	G	S01	S02	T01	
226	P030	285,224,160	G	S01	S02	T01	
227	P031	285,224,160	G	S01	S02	T01	
228	P033	285,224,160	G	S01	S02	T01	
229	P034	285,224,160	G	S01	S02	T01	
230	P036	285,224,160	G	S01	S02	T01	
231	P037	285,224,160	G	S01	S02	T01	
232	P038	285,224,160	G	S01	S02	T01	
233	P039	285,224,160	G	S01	S02	T01	
234	P040	285,224,160	G	S01	S02	T01	
235	P041	285,224,160	G	S01	S02	T01	
236	P042	285,224,160	G	S01	S02	T01	
237	P043	285,224,160	G	S01	S02	T01	
238	P044	285,224,160	G	S01	S02	T01	
239	P045	285,224,160	G	S01	S02	T01	
240	P046	285,224,160	G	S01	S02	T01	
241	P047	285,224,160	G	S01	S02	T01	
242	P048	285,224,160	G	S01	S02	T01	
243	P049	285,224,160	G	S01	S02	T01	
244	P050	285,224,160	G	S01	S02	T01	
245	P051	285,224,160	G	S01	S02	T01	

**XIII. DESCRIPTION OF HAZARDOUS WASTES
MICHIGAN DISPOSAL WASTE TREATMENT PLANT
MID 000724831**

LINE NO.	A. EPA HAZARDOUS WASTECODE	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE	D1. PROCESS CODES			D2. PROCESS DESCRIPTION
				S01	S02	T01	
246	P054	285,224,160	G	S01	S02	T01	
247	P056	285,224,160	G	S01	S02	T01	
248	P057	285,224,160	G	S01	S02	T01	
249	P058	285,224,160	G	S01	S02	T01	
250	P059	285,224,160	G	S01	S02	T01	
251	P060	285,224,160	G	S01	S02	T01	
252	P062	285,224,160	G	S01	S02	T01	
253	P063	285,224,160	G	S01	S02	T01	
254	P064	285,224,160	G	S01	S02	T01	
255	P065	285,224,160	G	S01	S02	T01	
256	P066	285,224,160	G	S01	S02	T01	
257	P067	285,224,160	G	S01	S02	T01	
258	P068	285,224,160	G	S01	S02	T01	
259	P069	285,224,160	G	S01	S02	T01	
260	P070	285,224,160	G	S01	S02	T01	
261	P071	285,224,160	G	S01	S02	T01	
262	P072	285,224,160	G	S01	S02	T01	
263	P073	285,224,160	G	S01	S02	T01	
264	P074	285,224,160	G	S01	S02	T01	
265	P075	285,224,160	G	S01	S02	T01	
266	P076	285,224,160	G	S01	S02	T01	
267	P077	285,224,160	G	S01	S02	T01	
268	P078	285,224,160	G	S01	S02	T01	
269	P081	285,224,160	G	S01	S02	T01	
270	P082	285,224,160	G	S01	S02	T01	
271	P084	285,224,160	G	S01	S02	T01	
272	P085	285,224,160	G	S01	S02	T01	
273	P087	285,224,160	G	S01	S02	T01	
274	P088	285,224,160	G	S01	S02	T01	
275	P089	285,224,160	G	S01	S02	T01	
276	P092	285,224,160	G	S01	S02	T01	
277	P093	285,224,160	G	S01	S02	T01	
278	P094	285,224,160	G	S01	S02	T01	
279	P095	285,224,160	G	S01	S02	T01	
280	P096	285,224,160	G	S01	S02	T01	
281	P097	285,224,160	G	S01	S02	T01	
282	P098	285,224,160	G	S01	S02	T01	
283	P099	285,224,160	G	S01	S02	T01	
284	P101	285,224,160	G	S01	S02	T01	
285	P102	285,224,160	G	S01	S02	T01	
286	P103	285,224,160	G	S01	S02	T01	
287	P104	285,224,160	G	S01	S02	T01	
288	P105	285,224,160	G	S01	S02	T01	
289	P106	285,224,160	G	S01	S02	T01	
290	P108	285,224,160	G	S01	S02	T01	
291	P109	285,224,160	G	S01	S02	T01	
292	P110	285,224,160	G	S01	S02	T01	
293	P111	285,224,160	G	S01	S02	T01	
294	P112	285,224,160	G	S01	S02	T01	

**XIII. DESCRIPTION OF HAZARDOUS WASTES
MICHIGAN DISPOSAL WASTE TREATMENT PLANT
MID 000724831**

LINE NO.	A. EPA HAZARDOUS WASTECODE	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE	D1. PROCESS CODES			D2. PROCESS DESCRIPTION
				S01	S02	T01	
295	P113	285,224,160	G	S01	S02	T01	
296	P114	285,224,160	G	S01	S02	T01	
297	P115	285,224,160	G	S01	S02	T01	
298	P116	285,224,160	G	S01	S02	T01	
299	P118	285,224,160	G	S01	S02	T01	
300	P119	285,224,160	G	S01	S02	T01	
301	P120	285,224,160	G	S01	S02	T01	
302	P121	285,224,160	G	S01	S02	T01	
303	P122	285,224,160	G	S01	S02	T01	
304	P123	285,224,160	G	S01	S02	T01	
305	P127	285,224,160	G	S01	S02	T01	
306	P128	285,224,160	G	S01	S02	T01	
307	P185	285,224,160	G	S01	S02	T01	
308	P188	285,224,160	G	S01	S02	T01	
309	P189	285,224,160	G	S01	S02	T01	
310	P190	285,224,160	G	S01	S02	T01	
311	P191	285,224,160	G	S01	S02	T01	
312	P192	285,224,160	G	S01	S02	T01	
313	P194	285,224,160	G	S01	S02	T01	
314	P196	285,224,160	G	S01	S02	T01	
315	P197	285,224,160	G	S01	S02	T01	
316	P198	285,224,160	G	S01	S02	T01	
317	P199	285,224,160	G	S01	S02	T01	
318	P201	285,224,160	G	S01	S02	T01	
319	P202	285,224,160	G	S01	S02	T01	
320	P203	285,224,160	G	S01	S02	T01	
321	P204	285,224,160	G	S01	S02	T01	
322	P205	285,224,160	G	S01	S02	T01	
323	U001	285,224,160	G	S01	S02	T01	
324	U002	285,224,160	G	S01	S02	T01	
325	U003	285,224,160	G	S01	S02	T01	
326	U004	285,224,160	G	S01	S02	T01	
327	U005	285,224,160	G	S01	S02	T01	
328	U006	285,224,160	G	S01	S02	T01	
329	U007	285,224,160	G	S01	S02	T01	
330	U008	285,224,160	G	S01	S02	T01	
331	U009	285,224,160	G	S01	S02	T01	
332	U010	285,224,160	G	S01	S02	T01	
333	U011	285,224,160	G	S01	S02	T01	
334	U012	285,224,160	G	S01	S02	T01	
335	U014	285,224,160	G	S01	S02	T01	
336	U015	285,224,160	G	S01	S02	T01	
337	U016	285,224,160	G	S01	S02	T01	
338	U017	285,224,160	G	S01	S02	T01	
339	U018	285,224,160	G	S01	S02	T01	
340	U019	285,224,160	G	S01	S02	T01	
341	U020	285,224,160	G	S01	S02	T01	
342	U021	285,224,160	G	S01	S02	T01	
343	U022	285,224,160	G	S01	S02	T01	

**XIII. DESCRIPTION OF HAZARDOUS WASTES
MICHIGAN DISPOSAL WASTE TREATMENT PLANT
MID 000724831**

LINE NO.	A. EPA HAZARDOUS WASTECODE	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE	D1. PROCESS CODES			D2. PROCESS DESCRIPTION
				S01	S02	T01	
344	U023	285,224,160	G	S01	S02	T01	
345	U024	285,224,160	G	S01	S02	T01	
346	U025	285,224,160	G	S01	S02	T01	
347	U026	285,224,160	G	S01	S02	T01	
348	U027	285,224,160	G	S01	S02	T01	
349	U028	285,224,160	G	S01	S02	T01	
350	U029	285,224,160	G	S01	S02	T01	
351	U030	285,224,160	G	S01	S02	T01	
352	U031	285,224,160	G	S01	S02	T01	
353	U032	285,224,160	G	S01	S02	T01	
354	U033	285,224,160	G	S01	S02	T01	
355	U034	285,224,160	G	S01	S02	T01	
356	U035	285,224,160	G	S01	S02	T01	
357	U036	285,224,160	G	S01	S02	T01	
358	U037	285,224,160	G	S01	S02	T01	
359	U038	285,224,160	G	S01	S02	T01	
360	U039	285,224,160	G	S01	S02	T01	
361	U041	285,224,160	G	S01	S02	T01	
362	U042	285,224,160	G	S01	S02	T01	
363	U043	285,224,160	G	S01	S02	T01	
364	U044	285,224,160	G	S01	S02	T01	
365	U045	285,224,160	G	S01	S02	T01	
366	U046	285,224,160	G	S01	S02	T01	
367	U047	285,224,160	G	S01	S02	T01	
368	U048	285,224,160	G	S01	S02	T01	
369	U049	285,224,160	G	S01	S02	T01	
370	U050	285,224,160	G	S01	S02	T01	
371	U051	285,224,160	G	S01	S02	T01	
372	U052	285,224,160	G	S01	S02	T01	
373	U053	285,224,160	G	S01	S02	T01	
374	U055	285,224,160	G	S01	S02	T01	
375	U056	285,224,160	G	S01	S02	T01	
376	U057	285,224,160	G	S01	S02	T01	
377	U058	285,224,160	G	S01	S02	T01	
378	U059	285,224,160	G	S01	S02	T01	
379	U060	285,224,160	G	S01	S02	T01	
380	U061	285,224,160	G	S01	S02	T01	
381	U062	285,224,160	G	S01	S02	T01	
382	U063	285,224,160	G	S01	S02	T01	
383	U064	285,224,160	G	S01	S02	T01	
384	U066	285,224,160	G	S01	S02	T01	
385	U067	285,224,160	G	S01	S02	T01	
386	U068	285,224,160	G	S01	S02	T01	
387	U069	285,224,160	G	S01	S02	T01	
388	U070	285,224,160	G	S01	S02	T01	
389	U071	285,224,160	G	S01	S02	T01	
390	U072	285,224,160	G	S01	S02	T01	
391	U073	285,224,160	G	S01	S02	T01	
392	U074	285,224,160	G	S01	S02	T01	

**XIII. DESCRIPTION OF HAZARDOUS WASTES
MICHIGAN DISPOSAL WASTE TREATMENT PLANT
MID 000724831**

LINE NO.	A. EPA HAZARDOUS WASTECODE	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE	D1 . PROCESS CODES			D2. PROCESS DESCRIPTION
				S01	S02	T01	
393	U075	285,224,160	G	S01	S02	T01	
394	U076	285,224,160	G	S01	S02	T01	
395	U077	285,224,160	G	S01	S02	T01	
396	U078	285,224,160	G	S01	S02	T01	
397	U079	285,224,160	G	S01	S02	T01	
398	U080	285,224,160	G	S01	S02	T01	
399	U081	285,224,160	G	S01	S02	T01	
400	U082	285,224,160	G	S01	S02	T01	
401	U083	285,224,160	G	S01	S02	T01	
402	U084	285,224,160	G	S01	S02	T01	
403	U085	285,224,160	G	S01	S02	T01	
404	U086	285,224,160	G	S01	S02	T01	
405	U087	285,224,160	G	S01	S02	T01	
406	U088	285,224,160	G	S01	S02	T01	
407	U089	285,224,160	G	S01	S02	T01	
408	U090	285,224,160	G	S01	S02	T01	
409	U091	285,224,160	G	S01	S02	T01	
410	U092	285,224,160	G	S01	S02	T01	
411	U093	285,224,160	G	S01	S02	T01	
412	U094	285,224,160	G	S01	S02	T01	
413	U095	285,224,160	G	S01	S02	T01	
414	U096	285,224,160	G	S01	S02	T01	
415	U097	285,224,160	G	S01	S02	T01	
416	U098	285,224,160	G	S01	S02	T01	
417	U099	285,224,160	G	S01	S02	T01	
418	U101	285,224,160	G	S01	S02	T01	
419	U102	285,224,160	G	S01	S02	T01	
420	U103	285,224,160	G	S01	S02	T01	
421	U105	285,224,160	G	S01	S02	T01	
422	U106	285,224,160	G	S01	S02	T01	
423	U107	285,224,160	G	S01	S02	T01	
424	U108	285,224,160	G	S01	S02	T01	
425	U109	285,224,160	G	S01	S02	T01	
426	U110	285,224,160	G	S01	S02	T01	
427	U111	285,224,160	G	S01	S02	T01	
428	U112	285,224,160	G	S01	S02	T01	
429	U113	285,224,160	G	S01	S02	T01	
430	U114	285,224,160	G	S01	S02	T01	
431	U115	285,224,160	G	S01	S02	T01	
432	U116	285,224,160	G	S01	S02	T01	
433	U117	285,224,160	G	S01	S02	T01	
434	U118	285,224,160	G	S01	S02	T01	
435	U119	285,224,160	G	S01	S02	T01	
436	U120	285,224,160	G	S01	S02	T01	
437	U121	285,224,160	G	S01	S02	T01	
438	U122	285,224,160	G	S01	S02	T01	
439	U123	285,224,160	G	S01	S02	T01	
440	U124	285,224,160	G	S01	S02	T01	
441	U125	285,224,160	G	S01	S02	T01	

**XIII. DESCRIPTION OF HAZARDOUS WASTES
MICHIGAN DISPOSAL WASTE TREATMENT PLANT
MID 000724831**

LINE NO.	A. EPA HAZARDOUS WASTECODE	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE	D1. PROCESS CODES			D2. PROCESS DESCRIPTION
				S01	S02	T01	
442	U126	285,224,160	G	S01	S02	T01	
443	U127	285,224,160	G	S01	S02	T01	
444	U128	285,224,160	G	S01	S02	T01	
445	U129	285,224,160	G	S01	S02	T01	
446	U130	285,224,160	G	S01	S02	T01	
447	U131	285,224,160	G	S01	S02	T01	
448	U132	285,224,160	G	S01	S02	T01	
449	U133	285,224,160	G	S01	S02	T01	
450	U134	285,224,160	G	S01	S02	T01	
451	U135	285,224,160	G	S01	S02	T01	
452	U136	285,224,160	G	S01	S02	T01	
453	U137	285,224,160	G	S01	S02	T01	
454	U138	285,224,160	G	S01	S02	T01	
455	U140	285,224,160	G	S01	S02	T01	
456	U141	285,224,160	G	S01	S02	T01	
457	U142	285,224,160	G	S01	S02	T01	
458	U143	285,224,160	G	S01	S02	T01	
459	U144	285,224,160	G	S01	S02	T01	
460	U145	285,224,160	G	S01	S02	T01	
461	U146	285,224,160	G	S01	S02	T01	
462	U147	285,224,160	G	S01	S02	T01	
463	U148	285,224,160	G	S01	S02	T01	
464	U149	285,224,160	G	S01	S02	T01	
465	U150	285,224,160	G	S01	S02	T01	
466	U151	285,224,160	G	S01	S02	T01	
467	U152	285,224,160	G	S01	S02	T01	
468	U153	285,224,160	G	S01	S02	T01	
469	U154	285,224,160	G	S01	S02	T01	
470	U155	285,224,160	G	S01	S02	T01	
471	U156	285,224,160	G	S01	S02	T01	
472	U157	285,224,160	G	S01	S02	T01	
473	U158	285,224,160	G	S01	S02	T01	
474	U159	285,224,160	G	S01	S02	T01	
475	U160	285,224,160	G	S01	S02	T01	
476	U161	285,224,160	G	S01	S02	T01	
477	U162	285,224,160	G	S01	S02	T01	
478	U163	285,224,160	G	S01	S02	T01	
479	U164	285,224,160	G	S01	S02	T01	
480	U165	285,224,160	G	S01	S02	T01	
481	U166	285,224,160	G	S01	S02	T01	
482	U167	285,224,160	G	S01	S02	T01	
483	U168	285,224,160	G	S01	S02	T01	
484	U169	285,224,160	G	S01	S02	T01	
485	U170	285,224,160	G	S01	S02	T01	
486	U171	285,224,160	G	S01	S02	T01	
487	U172	285,224,160	G	S01	S02	T01	
488	U173	285,224,160	G	S01	S02	T01	
489	U174	285,224,160	G	S01	S02	T01	
490	U176	285,224,160	G	S01	S02	T01	

**XIII. DESCRIPTION OF HAZARDOUS WASTES
MICHIGAN DISPOSAL WASTE TREATMENT PLANT
MID 000724831**

LINE NO.	A. EPA HAZARDOUS WASTECODE	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE	D1 . PROCESS CODES			D2. PROCESS DESCRIPTION
				S01	S02	T01	
491	U177	285,224,160	G	S01	S02	T01	
492	U178	285,224,160	G	S01	S02	T01	
493	U179	285,224,160	G	S01	S02	T01	
494	U180	285,224,160	G	S01	S02	T01	
495	U181	285,224,160	G	S01	S02	T01	
496	U182	285,224,160	G	S01	S02	T01	
497	U183	285,224,160	G	S01	S02	T01	
498	U184	285,224,160	G	S01	S02	T01	
499	U185	285,224,160	G	S01	S02	T01	
500	U186	285,224,160	G	S01	S02	T01	
501	U187	285,224,160	G	S01	S02	T01	
502	U188	285,224,160	G	S01	S02	T01	
503	U189	285,224,160	G	S01	S02	T01	
504	U190	285,224,160	G	S01	S02	T01	
505	U191	285,224,160	G	S01	S02	T01	
506	U192	285,224,160	G	S01	S02	T01	
507	U193	285,224,160	G	S01	S02	T01	
508	U194	285,224,160	G	S01	S02	T01	
509	U196	285,224,160	G	S01	S02	T01	
510	U197	285,224,160	G	S01	S02	T01	
511	U200	285,224,160	G	S01	S02	T01	
512	U201	285,224,160	G	S01	S02	T01	
513	U202	285,224,160	G	S01	S02	T01	
514	U203	285,224,160	G	S01	S02	T01	
515	U204	285,224,160	G	S01	S02	T01	
516	U205	285,224,160	G	S01	S02	T01	
517	U206	285,224,160	G	S01	S02	T01	
518	U207	285,224,160	G	S01	S02	T01	
519	U208	285,224,160	G	S01	S02	T01	
520	U209	285,224,160	G	S01	S02	T01	
521	U210	285,224,160	G	S01	S02	T01	
522	U211	285,224,160	G	S01	S02	T01	
523	U213	285,224,160	G	S01	S02	T01	
524	U214	285,224,160	G	S01	S02	T01	
525	U215	285,224,160	G	S01	S02	T01	
526	U216	285,224,160	G	S01	S02	T01	
527	U217	285,224,160	G	S01	S02	T01	
528	U218	285,224,160	G	S01	S02	T01	
529	U219	285,224,160	G	S01	S02	T01	
530	U220	285,224,160	G	S01	S02	T01	
531	U221	285,224,160	G	S01	S02	T01	
532	U222	285,224,160	G	S01	S02	T01	
533	U223	285,224,160	G	S01	S02	T01	
534	U225	285,224,160	G	S01	S02	T01	
535	U226	285,224,160	G	S01	S02	T01	
536	U227	285,224,160	G	S01	S02	T01	
537	U228	285,224,160	G	S01	S02	T01	
538	U234	285,224,160	G	S01	S02	T01	
539	U235	285,224,160	G	S01	S02	T01	

**XIII. DESCRIPTION OF HAZARDOUS WASTES
MICHIGAN DISPOSAL WASTE TREATMENT PLANT
MID 000724831**

LINE NO.	A. EPA HAZARDOUS WASTECODE	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE	D1 . PROCESS CODES			D2. PROCESS DESCRIPTION
				S01	S02	T01	
540	U236	285,224,160	G	S01	S02	T01	
541	U237	285,224,160	G	S01	S02	T01	
542	U238	285,224,160	G	S01	S02	T01	
543	U239	285,224,160	G	S01	S02	T01	
544	U240	285,224,160	G	S01	S02	T01	
545	U243	285,224,160	G	S01	S02	T01	
546	U244	285,224,160	G	S01	S02	T01	
547	U246	285,224,160	G	S01	S02	T01	
548	U247	285,224,160	G	S01	S02	T01	
549	U248	285,224,160	G	S01	S02	T01	
550	U249	285,224,160	G	S01	S02	T01	
551	U271	285,224,160	G	S01	S02	T01	
552	U277	285,224,160	G	S01	S02	T01	
553	U278	285,224,160	G	S01	S02	T01	
554	U279	285,224,160	G	S01	S02	T01	
555	U280	285,224,160	G	S01	S02	T01	
556	U328	285,224,160	G	S01	S02	T01	
557	U353	285,224,160	G	S01	S02	T01	
558	U359	285,224,160	G	S01	S02	T01	
559	U364	285,224,160	G	S01	S02	T01	
560	U365	285,224,160	G	S01	S02	T01	
561	U366	285,224,160	G	S01	S02	T01	
562	U367	285,224,160	G	S01	S02	T01	
563	U372	285,224,160	G	S01	S02	T01	
564	U373	285,224,160	G	S01	S02	T01	
565	U375	285,224,160	G	S01	S02	T01	
566	U376	285,224,160	G	S01	S02	T01	
567	U377	285,224,160	G	S01	S02	T01	
568	U378	285,224,160	G	S01	S02	T01	
569	U379	285,224,160	G	S01	S02	T01	
570	U381	285,224,160	G	S01	S02	T01	
571	U382	285,224,160	G	S01	S02	T01	
572	U383	285,224,160	G	S01	S02	T01	
573	U384	285,224,160	G	S01	S02	T01	
574	U385	285,224,160	G	S01	S02	T01	
575	U386	285,224,160	G	S01	S02	T01	
576	U387	285,224,160	G	S01	S02	T01	
577	U389	285,224,160	G	S01	S02	T01	
578	U390	285,224,160	G	S01	S02	T01	
579	U391	285,224,160	G	S01	S02	T01	
580	U392	285,224,160	G	S01	S02	T01	
581	U393	285,224,160	G	S01	S02	T01	
582	U394	285,224,160	G	S01	S02	T01	
583	U395	285,224,160	G	S01	S02	T01	
584	U396	285,224,160	G	S01	S02	T01	
585	U400	285,224,160	G	S01	S02	T01	
586	U401	285,224,160	G	S01	S02	T01	
587	U402	285,224,160	G	S01	S02	T01	
588	U403	285,224,160	G	S01	S02	T01	

**XIII. DESCRIPTION OF HAZARDOUS WASTES
MICHIGAN DISPOSAL WASTE TREATMENT PLANT
MID 000724831**

LINE NO.	A. EPA HAZARDOUS WASTECODE	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE	D1 . PROCESS CODES			D2. PROCESS DESCRIPTION
				S01	S02	T01	
589	U404	285,224,160	G	S01	S02	T01	
590	U407	285,224,160	G	S01	S02	T01	
591	U409	285,224,160	G	S01	S02	T01	
592	U410	285,224,160	G	S01	S02	T01	
593	U411	285,224,160	G	S01	S02	T01	
594	001S	285,224,160	G	S01	S02	T01	
595	002S	285,224,160	G	S01	S02	T01	
596	003S	285,224,160	G	S01	S02	T01	
597	004S	285,224,160	G	S01	S02	T01	
598	005S	285,224,160	G	S01	S02	T01	
599	006S	285,224,160	G	S01	S02	T01	
600	007S	285,224,160	G	S01	S02	T01	
601	001K	285,224,160	G	S01	S02	T01	
602	002K	285,224,160	G	S01	S02	T01	
603	001U	285,224,160	G	S01	S02	T01	
604	002U	285,224,160	G	S01	S02	T01	
605	003U	285,224,160	G	S01	S02	T01	
606	004U	285,224,160	G	S01	S02	T01	
607	005U	285,224,160	G	S01	S02	T01	
608	006U	285,224,160	G	S01	S02	T01	
609	007U	285,224,160	G	S01	S02	T01	
610	008U	285,224,160	G	S01	S02	T01	
611	009U	285,224,160	G	S01	S02	T01	
612	011U	285,224,160	G	S01	S02	T01	
613	012U	285,224,160	G	S01	S02	T01	
614	013U	285,224,160	G	S01	S02	T01	
615	014U	285,224,160	G	S01	S02	T01	
616	015U	285,224,160	G	S01	S02	T01	
617	016U	285,224,160	G	S01	S02	T01	
618	017U	285,224,160	G	S01	S02	T01	
619	020U	285,224,160	G	S01	S02	T01	
620	021U	285,224,160	G	S01	S02	T01	
621	022U	285,224,160	G	S01	S02	T01	
622	023U	285,224,160	G	S01	S02	T01	
623	024U	285,224,160	G	S01	S02	T01	
624	025U	285,224,160	G	S01	S02	T01	
625	027U	285,224,160	G	S01	S02	T01	
626	028U	285,224,160	G	S01	S02	T01	
627	029U	285,224,160	G	S01	S02	T01	
628	030U	285,224,160	G	S01	S02	T01	
629	031U	285,224,160	G	S01	S02	T01	
630	032U	285,224,160	G	S01	S02	T01	
631	033U	285,224,160	G	S01	S02	T01	
632	034U	285,224,160	G	S01	S02	T01	
633	036U	285,224,160	G	S01	S02	T01	
634	037U	285,224,160	G	S01	S02	T01	
635	038U	285,224,160	G	S01	S02	T01	
636	040U	285,224,160	G	S01	S02	T01	
637	041U	285,224,160	G	S01	S02	T01	

**XIII. DESCRIPTION OF HAZARDOUS WASTES
MICHIGAN DISPOSAL WASTE TREATMENT PLANT
MID 000724831**

LINE NO.	A. EPA HAZARDOUS WASTECODE	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE	D1 . PROCESS CODES			D2. PROCESS DESCRIPTION
				S01	S02	T01	
638	042U	285,224,160	G	S01	S02	T01	
639	043U	285,224,160	G	S01	S02	T01	
640	044U	285,224,160	G	S01	S02	T01	
641	046U	285,224,160	G	S01	S02	T01	
642	047U	285,224,160	G	S01	S02	T01	
643	048U	285,224,160	G	S01	S02	T01	
644	049U	285,224,160	G	S01	S02	T01	
645	050U	285,224,160	G	S01	S02	T01	
646	051U	285,224,160	G	S01	S02	T01	
647	052U	285,224,160	G	S01	S02	T01	
648	054U	285,224,160	G	S01	S02	T01	
649	055U	285,224,160	G	S01	S02	T01	
650	056U	285,224,160	G	S01	S02	T01	
651	057U	285,224,160	G	S01	S02	T01	
652	058U	285,224,160	G	S01	S02	T01	
653	059U	285,224,160	G	S01	S02	T01	
654	061U	285,224,160	G	S01	S02	T01	
655	063U	285,224,160	G	S01	S02	T01	
656	064U	285,224,160	G	S01	S02	T01	
657	065U	285,224,160	G	S01	S02	T01	
658	068U	285,224,160	G	S01	S02	T01	
659	070U	285,224,160	G	S01	S02	T01	
660	071U	285,224,160	G	S01	S02	T01	
661	072U	285,224,160	G	S01	S02	T01	
662	073U	285,224,160	G	S01	S02	T01	
663	074U	285,224,160	G	S01	S02	T01	
664	075U	285,224,160	G	S01	S02	T01	
665	076U	285,224,160	G	S01	S02	T01	
666	077U	285,224,160	G	S01	S02	T01	
667	078U	285,224,160	G	S01	S02	T01	
668	079U	285,224,160	G	S01	S02	T01	
669	080U	285,224,160	G	S01	S02	T01	
670	082U	285,224,160	G	S01	S02	T01	
671	083U	285,224,160	G	S01	S02	T01	
672	086U	285,224,160	G	S01	S02	T01	
673	088U	285,224,160	G	S01	S02	T01	
674	089U	285,224,160	G	S01	S02	T01	
675	090U	285,224,160	G	S01	S02	T01	
676	092U	285,224,160	G	S01	S02	T01	
677	093U	285,224,160	G	S01	S02	T01	
678	094U	285,224,160	G	S01	S02	T01	
679	095U	285,224,160	G	S01	S02	T01	
680	096U	285,224,160	G	S01	S02	T01	
681	097U	285,224,160	G	S01	S02	T01	
682	098U	285,224,160	G	S01	S02	T01	
683	099U	285,224,160	G	S01	S02	T01	
684	100U	285,224,160	G	S01	S02	T01	
685	101U	285,224,160	G	S01	S02	T01	
686	102U	285,224,160	G	S01	S02	T01	

**XIII. DESCRIPTION OF HAZARDOUS WASTES
MICHIGAN DISPOSAL WASTE TREATMENT PLANT
MID 000724831**

LINE NO.	A. EPA HAZARDOUS WASTECODE	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE	D1 . PROCESS CODES			D2. PROCESS DESCRIPTION
				S01	S02	T01	
687	103U	285,224,160	G	S01	S02	T01	
688	104U	285,224,160	G	S01	S02	T01	
689	106U	285,224,160	G	S01	S02	T01	
690	108U	285,224,160	G	S01	S02	T01	
691	110U	285,224,160	G	S01	S02	T01	
692	111U	285,224,160	G	S01	S02	T01	
693	112U	285,224,160	G	S01	S02	T01	
694	113U	285,224,160	G	S01	S02	T01	
695	114U	285,224,160	G	S01	S02	T01	
696	115U	285,224,160	G	S01	S02	T01	
697	116U	285,224,160	G	S01	S02	T01	
698	117U	285,224,160	G	S01	S02	T01	
699	118U	285,224,160	G	S01	S02	T01	
700	119U	285,224,160	G	S01	S02	T01	
701	120U	285,224,160	G	S01	S02	T01	
702	121U	285,224,160	G	S01	S02	T01	
703	122U	285,224,160	G	S01	S02	T01	
704	124U	285,224,160	G	S01	S02	T01	
705	127U	285,224,160	G	S01	S02	T01	
706	128U	285,224,160	G	S01	S02	T01	
707	129U	285,224,160	G	S01	S02	T01	
708	131U	285,224,160	G	S01	S02	T01	
709	132U	285,224,160	G	S01	S02	T01	
710	134U	285,224,160	G	S01	S02	T01	
711	135U	285,224,160	G	S01	S02	T01	
712	136U	285,224,160	G	S01	S02	T01	
713	137U	285,224,160	G	S01	S02	T01	
714	138U	285,224,160	G	S01	S02	T01	
715	139U	285,224,160	G	S01	S02	T01	
716	140U	285,224,160	G	S01	S02	T01	
717	141U	285,224,160	G	S01	S02	T01	
718	142U	285,224,160	G	S01	S02	T01	
719	143U	285,224,160	G	S01	S02	T01	
720	144U	285,224,160	G	S01	S02	T01	
721	146U	285,224,160	G	S01	S02	T01	
722	147U	285,224,160	G	S01	S02	T01	
723	148U	285,224,160	G	S01	S02	T01	
724	150U	285,224,160	G	S01	S02	T01	
725	151U	285,224,160	G	S01	S02	T01	
726	152U	285,224,160	G	S01	S02	T01	
727	153U	285,224,160	G	S01	S02	T01	
728	154U	285,224,160	G	S01	S02	T01	
729	155U	285,224,160	G	S01	S02	T01	
730	157U	285,224,160	G	S01	S02	T01	
731	158U	285,224,160	G	S01	S02	T01	
732	159U	285,224,160	G	S01	S02	T01	
733	160U	285,224,160	G	S01	S02	T01	
734	161U	285,224,160	G	S01	S02	T01	
735	162U	285,224,160	G	S01	S02	T01	

**XIII. DESCRIPTION OF HAZARDOUS WASTES
MICHIGAN DISPOSAL WASTE TREATMENT PLANT
MID 000724831**

LINE NO.	A. EPA HAZARDOUS WASTECODE	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE	D1 . PROCESS CODES			D2. PROCESS DESCRIPTION
				S01	S02	T01	
736	163U	285,224,160	G	S01	S02	T01	
737	164U	285,224,160	G	S01	S02	T01	
738	165U	285,224,160	G	S01	S02	T01	
739	166U	285,224,160	G	S01	S02	T01	
740	167U	285,224,160	G	S01	S02	T01	
741	168U	285,224,160	G	S01	S02	T01	
742	169U	285,224,160	G	S01	S02	T01	
743	170U	285,224,160	G	S01	S02	T01	
744	171U	285,224,160	G	S01	S02	T01	
745	172U	285,224,160	G	S01	S02	T01	
746	173U	285,224,160	G	S01	S02	T01	
747	174U	285,224,160	G	S01	S02	T01	
748	175U	285,224,160	G	S01	S02	T01	

APPENDIX B
WAYNE DISPOSAL INC. AND MICHIGAN DISPOSAL WASTE TREATMENT PLANT
RADIOLOGICAL WASTE

Wayne Disposal, Inc. (WDI), the Michigan Disposal Waste Treatment Plant (MDWTP), and radioactive material received, processed, and disposed at these sites are regulated under Part 135, Radiation Control, of the Public Health Code, 1978 PA 368, as amended (MCL 333.13501 to 333.13537) and the associated “Ionizing Radiation Rules for Radioactive Material” (IRR).

Radiological waste will be approved and accepted consistent with procedures outlined for all waste in the Waste Analysis Plan.

Michigan Disposal Waste Treatment Plant

MDWTP is authorized to receive material containing radium-226, radium-228, lead-210, and their progeny at any concentration for waste treatment and/or aggregation. MDWTP is also authorized to receive and treat waste meeting at least one of the IRR exemptions below including source material that meets the uranium and thorium criteria in Table 1. MDWTP may not process any exempt devices for treatment.

Wayne Disposal, Inc.

Before placement in the WDI landfill, radiological waste will either meet the limits specified in the following Table 1 or meet an applicable exemption from the IRR.

Table 1 – Michigan Concentration-Specific Landfill Limits

Nuclide	Concentration
Ra-226	50 pCi/g
Pb-210	260 pCi/g
Total combined uranium and thorium*	Less than 500 mg/kg

* Consistent with R 325.5052, “Source material as low percentage of weight” and 10 CFR 40.13, “Unimportant Quantities of Source Material.”

Applicable Exemptions from the “Ionizing Radiation Rules”

In instances where the current regulations in Part 10 of the Code of Federal Regulations differ from the IRR, the material must meet both exemption specifications. Administrative modifications of the exemptions provided below may be made without prior approval from the DEQ if the change is made to reflect a change in the IRR.

R 325.5052 Source material as low percentage of weight.

Rule 52. A person is exempt from this part to the extent that he or she receives, possesses, uses, or transfers source material in any chemical mixture, compound, solution, or alloy in which the source material is by weight less than 1/20 of 1% (0.05%) of the mixture, compound, solution, or alloy.

R 325.5053 Unprocessed ore containing source material.

Rule 53. A person is exempt from this part to the extent that he or she receives, possesses, uses, or transfers unrefined and unprocessed ore containing source material. However, the person shall not refine or process such ore except as authorized in a specific license.

R 325.5054 Thorium used in certain articles.

Rule 54. A person is exempt from this part to the extent that he or she receives, possesses, uses, or transfers any quantity of thorium contained in the following:

- (a) Incandescent gas mantles.
- (b) Vacuum tubes.
- (c) Welding rods.
- (d) Electric lamps for illuminating purposes if each lamp does not contain more than 50 milligrams of thorium.
- (e) Germicidal lamps, sunlamps, and lamps for outdoor or industrial lighting if each lamp does not contain more than 2 grams of thorium.
- (f) Rare earth metals and compounds, mixtures, and products containing not more than 0.25% by weight thorium, uranium, or any combination of these.

R 325.5055 Source material contained in ceramic and other articles.

Rule 55. A person is exempt from this part to the extent that he or she receives, possesses, uses, or transfers the following:

- (a) Source material contained in the following products:
 - (i) Glazed ceramic tableware, if the glaze contains not more than 20% by weight source material.
 - (ii) Glassware, glass enamel, and glass enamel frit containing not more than 10% by weight source material; but not including commercially manufactured glass brick, pane glass, ceramic tile, or other glass, glass enamel, or ceramic used in construction.
 - (iii) Piezoelectric ceramic containing not more than 2% by weight source material.
- (b) Photographic film, negatives, and prints containing uranium or thorium.
- (c) A finished product or part fabricated of, or containing, tungsten-thorium or magnesium/thorium alloys, if the thorium content of the alloy does not exceed 4% by weight. The exemption contained in this paragraph does not authorize the chemical, physical, or metallurgical treatment or processing of any such product or part.

R 325.5058 Thorium contained in lenses.

Rule 58. A person is exempt from this part to the extent that he or she receives, possesses, uses, or transfers thorium contained in finished optical lenses, if each lens does not contain more than 30% by weight of thorium. The exemption in this rule does not authorize either of the following:

- (a) The shaping, grinding, or polishing of such lens or manufacturing processes other than the assembly of such lens into optical systems and devices without any alteration of the lens.
- (b) The receipt, possession, use, or transfer of thorium contained in contact lenses, in spectacles or in eyepieces in binoculars or other optical instruments.

R 325.5059 Uranium contained in fire detection units.

Rule 59. A person is exempt from this part to the extent that he or she receives, possesses, uses, or transfers uranium contained in detector heads for use in fire detection units, if each detector head contains not more than 5 nanocuries of uranium.

R 325.5060 Thorium contained in aircraft engine parts.

Rule 60. A person is exempt from this part to the extent that he or she receives, possesses, uses, or transfers thorium contained in any finished aircraft engine part containing nickel-thoria alloy, if both of the following conditions are met:

- (a) The thorium is dispersed in the nickel-thoria alloy in the form of finely divided thoria (thorium dioxide).
- (b) The thorium content in the nickel-thoria alloy does not exceed 4% by weight.

R 325.5065 Exempt concentrations.

Rule 65. Except as provided in Rule 66, a person is exempt from this part to the extent that he or she owns, receives, acquires, possesses, uses, or transfers products or materials containing radioactive material in concentrations not in excess of those listed in Rule 146.

R 325.5067 Items containing tritium, promethium-147, or radium.

Rule 67. Except for persons who apply tritium, promethium-147, or radium to, or persons who incorporate tritium, promethium-147, or radium into, the following products, a person is exempt from these rules to the extent that he or she owns, receives, acquires, possesses, uses, or transfers the following products:

- (a) Timepieces or timepiece hands or dials containing not more than the following specified quantities of radioactive material and not exceeding the following specified levels of radiation:
 - (i) 25 millicuries of tritium per timepiece.
 - (ii) 5 millicuries of tritium per hand.
 - (iii) 15 millicuries of tritium per dial; bezels when used shall be considered as part of the dial.
 - (iv) 100 microcuries of promethium-147 per watch or 200 microcuries of promethium-147 per any other timepiece.
 - (v) 20 microcuries of promethium-147 per watch hand or 40 microcuries of promethium-147 per other timepiece hand.
 - (vi) 60 microcuries of promethium-147 per watch dial or 120 microcuries of promethium-147 per other timepiece dial; bezels when used shall be considered as part of the dial.
 - (vii) The levels of radiation from hands and dials containing promethium-147 will not exceed, when measured through 50 milligrams per square centimeter of absorber, the following:
 - (aa) For wrist watches, 0.1 millirad per hour at 10 centimeters from any surface.
 - (bb) For pocket watches, 0.1 millirad per hour at 1 centimeter from any surface.
 - (cc) For any other timepiece, 0.2 millirad per hour at 10 centimeters from any surface.
- (b) Timepieces or timepiece hands or dials containing not more than the following specified quantities of radium and meeting the following expressed conditions:
 - (i) 0.15 microcuries of radium per watch.
 - (ii) 0.03 microcuries of radium per watch hand.
 - (iii) 0.09 microcuries of radium per watch dial.
 - (iv) 0.20 microcuries of radium per clock.
 - (v) 0.04 microcuries of radium per clock hand.
 - (vi) 0.12 microcuries of radium per clock dial.
 - (vii) The timepiece is not a pocket watch.
 - (viii) Timepieces or timepiece hands or dials containing radium that were manufactured before the effective date of these rules.
 - (ix) The timepiece is marked or coded to identify the date of manufacture and that it contains radium.
 - (x) The timepiece emits sufficient luminosity, omitting photoactivation, that its dial can be read in the dark during its entire design lifetime.
- (c) Lock illuminators containing not more than 15 millicuries of tritium or not more than 2 millicuries of promethium-147 installed in automobile locks. The levels of radiation from each lock illuminator containing promethium-147 will not exceed 1 millirad per hour at 1 centimeter from any surface when measured through 50 milligrams per square centimeter of absorber.
- (d) Precision balances containing not more than 1 millicurie of tritium per balance or not more than 0.5 millicurie of tritium per balance part.
- (e) Automobile shift quadrants containing not more than 25 millicuries of tritium.

- (f) Marine compasses containing not more than 750 millicuries of tritium gas and other marine navigational instruments containing not more than 250 millicuries of tritium gas.
- (g) Thermostat dials and pointers containing not more than 25 millicuries of tritium per thermostat.
- (h) Electron tubes, including spark gap tubes, power tubes, gas tubes including glow lamps, receiving tubes, microwave tubes, indicator tubes, pick-up tubes, radiation detection tubes and any other completely sealed tube that is designed to conduct or control electrical currents, if the level of radiation due to radioactive material contained in each electron tube does not exceed 1 millirad per hour at 1 centimeter from any surface when measured through 7 milligrams per square centimeter of absorber and if each tube does not contain more than 1 of the following specified quantities of radioactive materials:
 - (i) 150 millicuries of tritium per microwave receiver protector tube or 10 millicuries of tritium per any other electron tube.
 - (ii) 1 microcurie of cobalt-60.
 - (iii) 5 microcuries of nickel-63.
 - (iv) 30 microcuries of krypton-85.
 - (v) 5 microcuries of cesium-137.
 - (vi) 30 microcuries of promethium-147.
- (i) Ionizing radiation measuring instruments containing, for purposes of internal calibration or standardization, a source of radioactive material not exceeding the applicable quantity set forth in Rule 147.

R 325.5071 Resins containing scandium-46 for sand consolidation in oil wells.

Rule 71. A person is exempt from these rules to the extent that he or she owns, receives, acquires, possesses, uses, or transfers synthetic plastic resins containing scandium-46 which are designed for sand consolidation in oil wells if the resins were manufactured or imported in accordance with a specific license issued by the NRC, or were manufactured in accordance with the specifications contained in a specific license issued by the department or an agreement state to the manufacturer of such resins pursuant to licensing requirements equivalent to those in sections 32.16 and 32.17 of 10 CFR Part 32 of the regulations of the NRC. This exemption does not authorize the manufacturer of resins containing scandium-46.

R 325.5072 Gas and aerosol detectors.

Rule 72. Except for persons who manufacture, process, or produce gas and aerosol detectors, a person is exempt from these rules to the extent that he or she owns, receives, acquires, possesses, uses, or transfers the following:

- (a) Byproduct material in gas and aerosol detectors designed to protect life or property from fires and airborne hazards, if the detectors containing byproduct material were manufactured, imported, or transferred in accordance with a specific license issued by the NRC pursuant to section 32.26 of 10 CFR Part 32, which license authorizes the transfer of the detectors to persons who are exempt from regulatory requirements.
- (b) Naturally occurring material in gas and aerosol detectors designed to protect life or property from fires and airborne hazards, if the detectors containing naturally occurring material were manufactured, imported, or transferred in accordance with a specific license issued by the department or an agreement state pursuant to equivalent conditions as in section 32.26 of 10 CFR Part 32, which license authorizes the transfer of the detectors to persons who are exempt from regulatory requirements.

R 325.5073 Self-luminous products containing tritium, krypton-85, promethium-147, or radium-226.

Rule 73.

- (1) Except for a person who manufactures, processes, or produces self-luminous products, a person is exempt from these regulations to the extent that he or she owns, receives, acquires, possesses, uses, or transfers the following:
 - (a) Tritium, krypton-85, or promethium-147 in self-luminous products manufactured, processed, imported, or transferred in accordance with a specific license issued by the NRC pursuant to section 32.22 of 10 CFR Part 32, which license authorizes the transfer of the product to persons who are exempt from regulatory requirements.
 - (b) Naturally occurring material in self-luminous products manufactured, processed, imported, or transferred in accordance with a specific license issued by the department or an agreement state pursuant to equivalent conditions as in section 32.22 of 10 CFR Part 32.
- (2) The exemptions in subrule (1) of this rule do not apply to tritium, krypton-85, promethium-147, or naturally occurring material used in products for frivolous purposes or in toys or adornments.

R 325.5074 Exempt quantities.

Rule 74.

- (1) Except as provided in subrules (3) and (4) of this rule, a person is exempt from these rules to the extent that he or she owns, receives, acquires, possesses, uses, or transfers a byproduct, naturally occurring, or accelerator material in individual quantities each of which does not exceed the applicable quantity set forth in Rule 147.

Other Determinations

An item with surface contamination including source material, radium-226, radium-228, and progeny may be disposed if the maximum near-contact gamma exposure rate is less than 40 microroentgens per hour above background. The documentation for each item shall include, at a minimum, the following:

- a. Description of the item;
- b. The manufacturer, model, and serial number of the meter and probe used;
- c. The meter calibration date;
- d. The background radiation measurement;
- e. All gamma exposure measurements taken on the item;
- f. The survey date and location; and
- g. The surveyor's name and company.

WDI staff shall comply with the requirements of subrule 2 of R 325.5238, "Disposal of Radioactive Material," for disposal of any material not listed above. The subrule reads, in part,

"A person may apply to the department for approval of proposed procedures to dispose of radioactive material in a manner not otherwise authorized in this part. The application shall include a description of the radioactive material, including the quantities and kinds of radioactive material and the levels of radioactivity involved, and the proposed manner and conditions of disposal."