



1923 Frederick Street, Detroit, MI 48211
P 313.347.1300 F 313.923.3375

September 25, 2020

Andrew S. Bertapelle, E.I.T.
Environmental Engineer
Environment, Great Lakes, and Energy
Constitution Hall 525 W. Allegan St.
P.O. Box 30473
Lansing, MI 48909-7973

RE: US Ecology - Detroit South RCRA Draft Waste Analysis Plan (WAP) dated September, 2020; EQ Detroit, Inc. DBA US Ecology - Detroit South; MID 980 991 566

Dear Mr. Bertapelle:

This correspondence is EQ Detroit, Inc. (dba US Ecology – Detroit South) response to your request for a formal submittal of the most current draft waste analysis plan (WAP). Outlined below is a chronological list of the WAP revisions since the 2002 permit application for reference. Note that the facility will be referred to as "EQD" throughout this document.

- 07/31/2002 – A WAP was submitted with the 2002 permit application dated July 31, 2002 (Revision 3)
- 12/12/2003 – The Part 111 permit was issued on December 12, 2003 therefore, the WAP dated July 31, 2002 (Revision 3) was the APPROVED WAP for the newly issued permit.
- 03/01/2007 - A renewal WAP was submitted to EGLE dated **March 1, 2007** but there is not a revision number on the document (EQD considers this to be the most current WAP)
- 09/10/2008 - A renewal Part 111 permit application was submitted on September 10, 2008. This application included a WAP with a Revision of 0.0 but it did not have a date on the WAP. This is presumably the version that USEPA reviewed and submitted comments on November 29, 2017.
- 02/14/2017 - On February 14, 2017 EGLE replied in an email to EQD that the WAP dated **March 1, 2007** is the **most current approved WAP**. Note that the WAP submitted with the September 10, 2008 Part 111 permit application is not approved to date.

- 09/29/2017 – EGLE issued a Technical Review Notice of Deficiency to EQD on September 29, 2017 for the Part 111 permit application submitted by EQD to EGLE on September 10, 2008.
- 11/28/2017 - EQD submitted a revised Part 111 permit application dated November 28, 2017, Revision 1. Included with this submission was an updated WAP.
- 11/29/2017 - The USEPA completed their review of Revision 0.0 of the WAP on November 29, 2017. Revision 0.0 is believed to be from **September 10, 2008**.
- 12/07/2017 – On December 7, 2017 EQD submitted a response to the Technical Notice of Deficiency dated September 29, 2017.
- 02/16/2018 – Internally, the draft WAP has been revised on February 16, 2018 (Revision 2).
- 03/15/20 – Revisions were made to the draft WAP (Revision 2) on November 13, 2019 and again March 15, 2020 to address the comments from USEPA dated November 29, 2017.
- Changes have been made over the course of discussions on the calls between USE-DS and EGLE and based on email correspondence from you. The September, 2020 (Revision 5) draft WAP is considered the most current and is included with this submission.

In summary, the most current draft WAP dated September, 2020, Revision 5 is attached to this submission for your review.

Should you have any questions please contact Tabetha Peebles, Environmental Compliance Manager, at 313.347.1328.

Sincerely,



John C. Barta
General Manager

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 waste analysis plan (WAP) 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 a chemical and physical WAP at the hazardous waste management facility EQD Detroit (EQD) Detroit, 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 EQD 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) separate*

- ☒ 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)	Prohibited Waste Type Description	5
A2.A.1(c)	On-site 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 A.1	Representative Sampling Procedures for On-site Generated Waste	10
Table A.2	Sampling Preservation	11
Table A.3	Pre-Approval/Waste Characterization Analysis Procedures	12
A2.A.3(b)	Off-site Generated Waste	13
A2.A.4	Pre-Approval Land Disposal Restrictions (LDR) Evaluation	14
A2.A.4(a)	Dilution and Aggregation of Wastes	14
A2.A.5	Pre-approval Generator Waste Characterization Discrepancies	14
A2.A.6	Subsequent Waste Shipment Procedures	15
A2.B	Pre-Acceptance	16
A2.B.1	Pre-Acceptance Procedures	16
A2.B.1(a)	Paperwork Review	16
A2.B.1(b)	Sampling Methods and Frequency	17
Table B.1	Representative Sampling Procedures for Pre-Acceptance Screening	19
A2.B.1(c)	Waste Screening and Visual Inspection of Waste	20
Table B.2	Pre-Acceptance Analysis Procedures	21
A2.B.1(d)	Sampling Methods and Frequency Exceptions	22
A2.B.2	Pre-Acceptance Discrepancy	24
A2.C	Waste Acceptance	25
A2.C.1	Containerized Waste	25
A2.C.1(a)	Wastes Container Compatibility	25
TABLE C.1	Segregation and Separation Chart of Hazardous Materials	25
A2.C.2	Waste Tank Systems	26
A2.C.2(a)	Tank Assignment (EQD)	26
A2.C.2(c)	Tanks without Secondary Containment System	26
A2.C.3	Waste Bulking and/or Consolidation Compatibility	26
A2.C.4	Transshipped Waste	26
A2.D	Post Treatment and Land Disposal Restriction	27
A2.D.1	Treatment for Purpose of Land Disposal	27
Table D.1	Characteristic Treatment Identification	27
A2.D.2	Land Disposal Restrictions	28
A2.D.2(a)	Characteristic Wastes	28
A2.D.2(b)	Listed Wastes	28
A2.D.2(c)	Laboratory Packs	29
A2.D.2(d)	Radioactive Mixed Waste	30
A2.D.2(e)	Contaminated Debris	30
A2.D.2(f)	Soil	30
A2.D.2(g)	Dilution and Aggregation of Wastes	31
A2.D.3	Post-Treatment Sampling and Analysis (EQD)	31
Table D.2	Land Disposal Restriction Verification	34
A2.E	Landfilled Wastes	35
A2.E.1	Containerized or Bulk Wastes	35

A2.E.2	Procedures to Determine Addition of Biodegradable Sorbent	35
A2.E.3	Waste Shipped to Subtitle C Facilities	35
A2.E.4	Waste Shipped to Subtitle D Facilities	35
A2.E.5	Recyclable Materials	35
A2.F	Notification, Certification and Recordkeeping Requirements	37
A2.F.1	Retention of Generator Notices and Certifications	37
A2.F.2	Notification and Certification Requirements for Treatment Facilities	37
A2.F.3	Record Keeping	37
A2.F.4	Required Notice	38
Appendix A	Hazardous Wastes Identification	39

A2 INTRODUCTION

EQ Detroit (EQD) is a commercial facility that receives wastes generated from off-site locations. EQD has developed this chemical and physical waste analysis plan to ensure 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 (individuals who are familiar with the procedures essential to executing the requirements of the WAP). All on-site and off-site generated waste will be evaluated through the procedures outlined in this plan.

All analysis performed pursuant to this WAP will be consistent with the Quality Assurance/Quality Control (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 following:

- physical/chemical characteristics of the waste;
- the regulatory and operating license requirements for treatment and/or storage at EQD;
- the information and analytical data supplied to the facility by the generator; and
- the process control data necessary to manage, store, treat, or transship waste at EQD.

In accordance with R 299.9609 and 40 CFR §264.73 and Part 264, Appendix I, EQD will retain all records and results of waste determinations performed as specified in 40 CFR §§264.13, 264.17, 264.1083, and 268.7 in the facility operating record until closure of the facility. The current version of this plan shall be available on-site.

A2.A PRE-APPROVAL

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

The pre-approval process outlines procedures taken by the Treatment Storage Disposal (TSD) facility in order to characterize their on-site generated waste. It also defines the information that the TSD facility requires for off-site generated waste in order to obtain detailed chemical and physical analysis representative of the waste.

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 on-site or received from off-site generators and are acceptable for treatment and/or storage at EQD is a hazardous waste identified by waste code in Table D.2, and nonhazardous wastes. Additional information regarding the waste that may be received is outlined below.

Characteristic waste codes which may be approved into EQD are provided in Table D.2 along with land disposal restriction (LDR) requirements for treatment and disposal. Waste with 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 EQD or transshipment to an off-site location for further treatment. Waste meeting applicable LDRs will be

approved for land disposal. Disposal typically occurs at a Subtitle D landfill. The waste will be decharacterized and meet applicable LDRs prior to disposal.

Generator process knowledge strongly contributes to the documentation of the applicability of a listed waste code. Analytical concentrations exceeding applicable land disposal restrictions may be approved for treatment at EQD or be transshipped to an off-site location for further treatment. Waste meeting applicable LDRs may be received at EQD, 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 sent to an off-site Subtitle D landfill. This includes waste streams in which generators have obtained and executed the requirements of their delisting permits which would allow EQD to accept the material and transship to a Subtitle D landfill. It also accounts for solid waste that has been exempted by 40 CFR 261.3(c) and (g) from being a hazardous waste after treatment occurs (i.e. K062 is not applicable when the process waste is treated with lime).

Generator process knowledge, analysis, and/or information provided on the waste characterization form (see A2.A.2) will be used to demonstrate waste mixtures and wastes with multiple codes are properly characterized. Each waste with 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.

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 268.2 may be treated at EQD prior to land disposal at a Subtitle C landfill utilizing the immobilization technologies defined in 40 CFR 268.45. This is done 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 disposal.

Any time EQD 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; or
- ◆ Through other means threaten human health or environment.

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

The following waste streams are prohibited at EQD:

- ◆ Explosive wastes (such as Department of Transportation (DOT) Class 1) for treatment nor storage,
- ◆ Reactive wastes (except cyanides and sulfides) for treatment nor storage, and
- ◆ Toxic Substances Control Act (TSCA) Polychlorinated Biphenyl (PCB) waste for treatment nor storage.

A2.A.1(c) On-site Generated Waste

Housekeeping, maintenance, laboratory, and waste processing and disposal activities may result in the on-site generation of waste at the facility (i.e. landfill leachate filter cake and process debris generated as a result of waste handling). These wastes may include any of the acceptable wastes listed in the Table D.2. Waste generated at the facility is evaluated in the same manner as off-site waste, utilizing procedures provided in the sections below. 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 administrator 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 Resource Conservation and Recovery Act (RCRA) regulations. Without relieving a generator of its responsibility to properly characterize its waste for purposes of treatment, storage and disposal, and to fully and accurately communicate that information to EQD in accordance with this WAP, EQD acknowledges their responsibility to comply with 40 CFR 264.13 by obtaining all information which must be known to treat, store, or dispose of the waste in accordance with Parts 264 and 268 of the RCRA regulations.

To aid generators in complying with the requirements and to ensure the TSD facility obtains sufficient chemical and physical information from the generators, EQD requires the submittal of waste characterization information. In accordance with the generator requirements set forth in 40 CFR 262.11, EQD will require the following waste profile information for initial waste shipments from all off-site generators and on-site 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 may have occurred such that the RCRA classification of the waste may change.
 - A determination of the applicability of listed hazardous waste codes using knowledge of the waste to determine whether the waste meets any description(s) under subpart D of 40 CFR part 261.
 - A determination of whether the waste exhibits one or more hazardous characteristics.
 - A determination of the ignitability and/or reactivity of waste.
 - A determination of whether the waste qualifies as a Universal Waste.
 - Physical characteristics of the waste (i.e. consistency (including free liquids), odor)

- ◆ 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
 - RCRA Waste with <500ppm VOC bearing waste
 - Knowledge of the waste provided with the generator's pre-approval information is relied upon to make a determination on whether the waste is exempt from Subpart CC. Examples of acceptable knowledge includes information included in manifests, shipping papers or waste certification notices.
- ◆ 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.

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 required information provided by the generator provides the facility with detailed information regarding the chemical and physical properties which represent the waste. If the generator chooses to utilize knowledge they may do so only if they provide a sufficient basis for the knowledge that supports their characterization. If the profile information is incomplete, conflicts with the generator's determination, or if EQD is unable to make a determination (Appendix A outlines how determinations are made) because of a lack of information, the generator or their representative is contacted in order to obtain additional information before the approval process will continue. If the requested information cannot be obtained an approval will not be issued. Representative samples may be requested to further evaluate the waste and verify information provided by the generator, but are not required.

Once it is determined that the information is complete a handling method and approval number is assigned to the waste stream. That handling method identifies the treatment(s) (if any), disposal destination (Subtitle C or D), or the need for transshipment to an off-site facility. Waste streams that do not require additional treatment may be assigned a handling method that allows for direct disposal to an outbound facility.

An approval letter is sent to the generator, serving as notification that the waste, as represented, may be shipped to the facility, and the facility has the appropriate permit(s) to accept the waste. All approval files are

maintained in the facility operating record in a paper or other archival form. Approval files with no shipments before expiration will not be kept in the facility operating record.

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. Generator process knowledge is also utilized to document the applicability of a listed waste code including a determination of whether waste is derived from listed waste. When generator knowledge is not enough to characterize a waste stream generated at the facility EQD will select appropriate analytical parameters based on what is reasonably expected to be present by using knowledge of the generating process.

As practicable, sampling techniques used for specific types of waste will correspond to those referenced in 40 CFR 261, Appendix I and USEPA SW-846 whenever possible. The sampling equipment and procedures described represent recommended sampling protocol for general types of waste material. Waste may require different sampling techniques than those outlined. Therefore, deviations from the recommended protocol do not constitute an excursion from acceptable sampling practices or the conditions of this WAP.

The rationale for what sampling equipment will be used is determined by considering a number of factors. Waste properties are considered when determining the type of sampling equipment that will be used. Sample devices will vary according to whether the sample is liquid, solid or multiphasic, and whether the liquids are viscous or free-flowing and solids are hard, soft, powdery, or clay-like. Table A.1 outlines typical sampling equipment that may be utilized based on the physical state of the waste.

Ease of use of the sampling devices is a contributing factor in determining which specific sampling tool will be utilized. For example, a colliwassa is commonly utilized to collect samples from multiphasic waste streams. However, if sampling in a ditch, a dipper may equally be capable of collecting a representative sample and is a more practical to use.

If, upon visual inspection, the waste is observed to be heterogeneous, then as much as practicable, the sample will be composed of each layer or each material will be sampled individually and either composited based on estimated proportions or evaluated separately. A composite may be used for purpose of characterization and a representation of the waste at the point of generation and how the waste may behave during treatment of the commingled material. The individual grabs may be used to determine the worst case scenario and establish conservative handling procedures.

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. 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. Sampling equipment will either be cleaned by wiping, water-rinsing into a container, or managing the equipment as a waste. Decontamination is only required if the material previously sampled is incompatible with the waste that will be sampled or if contamination on the sampling equipment may dilute the sample being collected.

Minimum sample sizes and preservation techniques utilized for the specific constituent types are outlined in Table A.2. Preservation requirements may not be necessary if samples are brought directly to the laboratory after sampling and analyzed upon receipt.

Table A.3 lists the waste analysis parameters that will be completed for the purpose of characterization of on-site waste, and parameters that may be needed in order to make a pre-approval determination for on-site generated waste. The table includes the rationale for the selection of these parameters, test methods that will be used to test for these parameters, and the appropriate reference.

In the event a third-party laboratory will be utilized to perform testing, the sampling requirements will be consistent with the third-party laboratory instructions and alternative but equivalent analytical methods may be utilized. 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.

The testing and sampling frequency is determined utilizing knowledge of the waste streams generating process and history of previous analytical results (when available). A generating process that is not listed (including derived from) and that does not have any characteristically hazardous constituents, placed in or generated as a result of the generating process, may not require any testing. In this case knowledge may be utilized to determine it is not hazardous. When a generating process consistently has the same input or minor variations in the input, it may not require any additional sampling or analysis after the initial testing. The previous analysis and process knowledge may be suitable to determine the characterization (which includes the constituents subject to treatment). Waste streams that have some fluctuations in their input may be evaluated periodically in order to confirm the constituents present are consistent with previous analytical concentrations and characterizations. When a waste streams input is highly variable it will be sampled and analyzed more frequently and in some instances may require analysis prior to each disposal. Waste streams may also be managed conservatively, characterizing them as hazardous and treating for all constituents that may potentially be subject to treatment.

**TABLE A.1 REPRESENTATIVE SAMPLING PROCEDURES FOR ON-SITE
GENERATED WASTE**

(One page following this title page contains Table A.1)

TABLE A.1 REPRESENTATIVE SAMPLING PROCEDURES FOR ONSITE GENERATED WASTE

The sampling equipment and procedures described represent recommended sampling protocol for general types of waste material. Waste may require different sampling techniques than those outlined.

Sampling Method/ Rationale	Sampling equipment	Viscous liquid	Single-Phase Liquid	Multi-Phase Liquid	Free flowing liquids and slurries/sludge	Hard Packed Solids/ Sludge	Soil or soil-like material	Dry powders and granules	Moist powders and granules
SW-846, Ch. 9	Dipper/Cup*	Y	Y	Y	Y	N	N	N	N
	Coliwasa/Tube/Drum Thief	Y	Y	Y	Y	N	N	N	N
	Thief	N	N	N	N	N	N	Y	N
	Trier	N	N	N	N	Y	Y	Y	Y
	Scoop/Cup*/Spoon/Trowel	N	N	N	N	Y	Y	Y	Y
	Auger	N	N	N	N	Y	Y	Y	Y

*Cup may act as dipper and/or a scoop

TABLE A.2 SAMPLING PRESERVATION

(One page following this title page contains Table A.2)

TABLE A.2 SAMPLING PRESERVATION

Parameter	Matrix	Minimum Sample Size	Hold Time	Preservation (when not immediately analyzed)	Container Type
Semivolatile	Water	4 oz.	7 days	Sodium Thiosulfate, 4°C	Amber glass
	Solid	4 oz.	14 days	4°C	Glass
Volatiles	Water	4 oz.	14 days	4°C/ HCL pH<2 (approximately 4 drops), no headspace	2X 40mL VOA vials
	Solid	4 oz.	14 days	4°C	Glass with septa and minimal headspace
Cyanides	Water	4 oz.	14 days	Sodium Thiosulfate, 4°C / NaOH to pH >12	Plastic or Glass
	Solid	4 oz.	14 days	4°C	Plastic or Glass
Pesticides	Water	4 oz.	7 days	4°C pH 5-9	Amber glass
	Solid	4 oz.	14 days	4°C	Glass
PCB	Water	4 oz.	7 days	4°C	Amber glass
	Solid	4 oz.	14 days	4°C	Glass
Herbicide	Water	4 oz.	7 days	4°C	Amber glass
	Solid	4 oz.	14 days	4°C	Glass jar
Mercury	Water	4 oz.	28 days	HNO ₃ to pH<2	Plastic/glass
	Solid	4 oz.	28 days	4°C	Plastic/glass
Metals	Water	4 oz.	6 Months	HNO ₃ to pH<2	Plastic/glass
	Solid	4 oz.	6 Months	NONE	Plastic/Glass
TCLP Metals/Hg	Solid	5 oz.	28 days	NONE	Plastic/Glass

TABLE A.3 PRE-APPROVAL/WASTE CHARACTERIZATION ANALYSIS PROCEDURES

(Two pages following this title page contains A.3)

TABLE A.3 PRE-APPROVAL/WASTE CHARACTERIZATION ANALYSIS PROCEDURES

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

Table D.2 provides waste code specific methods

Parameter	Rationale	Analytical Method	Frequency*
Color	A comparison of the incoming wastes color to waste information presented during pre-approval	Visual Assessment	<ul style="list-style-type: none"> Initial Approval (when knowledge must be supported) Change in the process generating the waste which will alter the characterization or treatability (when knowledge must be supported)
Consistency	A comparison of the incoming wastes consistency to waste information presented during pre-approval	Visual Assessment: Examples of consistency descriptors are as follows: dust, solid, semi-solid, sludge, liquid and/or debris.	<ul style="list-style-type: none"> Initial Approval (when knowledge must be supported) Change in the process generating the waste which will alter the characterization or treatability
Odor (Incidental)	A comparison of the incoming wastes odor to waste information presented during pre-approval. Intended to detect potentially problematic odors that were misrepresented in pre-approval information.	Potentially problematic odors detected in the routine laboratory handling of a sample may result in rejection of the load unless the waste can be managed in such a way as to minimize odor emissions.	<ul style="list-style-type: none"> Initial Approval (when knowledge must be supported) Change in the process generating the waste which will alter the characterization or treatability
pH	A comparison of the incoming wastes pH to waste information presented during pre-approval	Internal Procedure: The pH of the material will be verified using wide range pH paper (mentioned in SW846 9041) on a single aliquote of waste. If not visually apparent after looking at pH paper, an electronic measurement may be performed using (SW846 9040 and 9045)	<ul style="list-style-type: none"> Initial Approval (when knowledge must be supported) Change in the process generating the waste which will alter the characterization or treatability
Ignitability	Quantify flashpoint of waste that failed the match test to confirm D001 applicability when flashpoints are <140F. A comparison of the incoming wastes ignitability to waste information presented during pre-approval.	SW 846 1010 or SW 846 1020	<ul style="list-style-type: none"> Initial Approval (when knowledge must be supported) Change in the process generating the waste which will alter the characterization or treatability
Reactivity-Water	Verify potential for adverse reaction. Reactions are assessed to determine if the material is inconsistent with expected waste; whether additional handling and controls are required; and whether the waste reaction occurs may qualify as water reactive as specified by 40 CFR 261.23	Internal Procedure: The test method is as follows: Approximately ten milliliters (mls) or equal volume of waste is mixed rapidly with approximately ten mls of water.	<ul style="list-style-type: none"> Initial Approval (when knowledge must be supported) Change in the process generating the waste which will alter the characterization or treatability
H2S Screening	Verify potential for adverse reaction. Reactions are assessed to determine if the material is inconsistent with expected waste; whether additional handling and controls are required.	Internal Procedure: Mix waste in cup with acid. Approximately ten mls of waste is mixed with ten mls HCl solution to acidify the waste. A minimum of Detect H2S gas with lead acetate paper, gas tube or a hydrogen sulfide monitor.	<ul style="list-style-type: none"> Initial Approval (when knowledge must be supported) Change in the process generating the waste which will alter the characterization or treatability
Free Liquids	Intended to verify presence of free liquids	SW846, 9095 Paint Filter Liquids Test	<ul style="list-style-type: none"> Initial Approval (when knowledge must be supported) Change in the process generating the waste which will alter the characterization or treatability
Cyanide Screening	Verify potential for adverse reaction. Reactions are assessed to determine if the material is inconsistent with expected waste; whether additional handling and controls are required	Internal Procedure: SW846 9014 coloring method reagents are added to a mixture of water and waste. In the presence of cyanide color change will occur. A violet color may be an indication that cyanides are present. A dark purple is an indication that the cyanide concentrations are potentially high. The detection when not expected or a dark color change will trigger an investigation of the waste.	<ul style="list-style-type: none"> Initial Approval (when knowledge must be supported) Change in the process generating the waste which will alter the characterization or treatability

TABLE A.3 PRE-APPROVAL/WASTE CHARACTERIZATION ANALYSIS PROCEDURES

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

Table D.2 provides waste code specific methods

Parameter	Rationale	Analytical Method	Frequency*
Cyanide	Quantification of Cyanide Concentration	SW846 9010 and 9014 Total and Amenable Cyanide: Distillation, Cyanide in Waters and Extracts Using Titrimetric and Manual Spectrophotometric Procedures	<ul style="list-style-type: none"> Initial Approval (when knowledge must be supported) Change in the process generating the waste which will alter the characterization or treatability
PCB	Quantification of PCB Concentration	SW846 8082 PCBs by GC	<ul style="list-style-type: none"> Initial Approval (when knowledge must be supported) Change in the process generating the waste which will alter the characterization or treatability
Metals/Mercury	Quantification of Regulated Metal Concentration	SW846 6010, SW846 7473	<ul style="list-style-type: none"> Initial Approval (when knowledge must be supported) Change in the process generating the waste which will alter the characterization or treatability
Semi-volatiles	Quantification of Semi-volatile Concentration	SW846 8270 Solid or liquid extraction procedure followed by analysis on GC; 625.1 for wastewater	<ul style="list-style-type: none"> Initial Approval (when knowledge must be supported) Change in the process generating the waste which will alter the characterization or treatability
Volatiles	Quantification of Volatile Concentration	SW846 8260, 8015 Solid or liquid extraction procedure followed by analysis on GC	<ul style="list-style-type: none"> Initial Approval (when knowledge must be supported) Change in the process generating the waste which will alter the characterization or treatability
Pesticides	Quantification of Pesticide Concentrations	SW846 8081 Solid or liquid extraction procedure followed by analysis on GC	<ul style="list-style-type: none"> Initial Approval (when knowledge must be supported) Change in the process generating the waste which will alter the characterization or treatability
Herbicides	Quantification of Herbicide Concentration	SW846 8151, 8270 Solid or liquid extraction procedure followed by analysis on GC	<ul style="list-style-type: none"> Initial Approval (when knowledge must be supported) Change in the process generating the waste which will alter the characterization or treatability

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 the waste is a hazardous waste. This ensures wastes are properly managed according to applicable RCRA regulations. The information provided to EQD is used as the basis for the chemical and physical analysis, and generators are responsible for ensuring the information is true and accurate. Generators, or an authorized representative, must certify the information provided is representative of the waste. 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.

If the generator has a generating process that is not listed (including derived from) and does not have any characteristically hazardous constituent placed in or generated as a result of the process then they may determine no testing is required and utilize knowledge to determine it is not hazardous. When a generating process consistently has the same input, or minor variations in the input, the generator may not need any additional sampling or analysis. After the initial testing they may deem the previous analysis and process knowledge as suitable to determine the characterization (which includes the constituents subject to treatment). Waste streams that have some fluctuations in their input may be evaluated periodically in order to confirm the constituents present are consistent with previous analytical concentrations and characterizations. When a waste stream's input is highly variable it will be sampled and analyzed more frequently, and in some instances, may require analysis prior to each disposal. Waste streams may also be managed conservatively, characterizing them as hazardous and treating for all constituents that may potentially be subject to treatment. Waste streams that may have varying characterizations may be broken up into multiple approvals, segregating the waste according to the appropriate characterization and providing justification on how they intend to segregate the waste. If necessary, EQD 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 other than those identified by the generator. Examples of situations which may cause the TSD facility to suspect that additional contaminants are present include, but are not limited to, process information that introduces regulated contaminants not identified by the generator; constituents of concern commonly associated with a process or industry (i.e. benzene from the petroleum industry); or a site history that indicates regulated contaminants of concern that may have been present at the facility (i.e. soil from a dry cleaning operation failing to identify trichloroethylene or tetrachloroethylene). When samples are provided prior to receipt, generators will be responsible for a representative collection of the waste. When confirmatory analysis is performed while waste is on-site, sampling will be performed as specified in A2.B.1(b) and analysis will be completed as specified in Table A.3. Discrepancy procedures outlined in A2.A.5 will be followed if analysis differs from the generator characterization.

A2.A.4 PRE-APPROVAL LAND DISPOSAL RESTRICTIONS (LDR) EVALUATION [R 299.9605(1) and 40 CFR §264.13(B)(1)]

On-site generated waste streams are evaluated for LDR applicability and prohibition of land disposal restriction concurrently with the hazardous waste determination made in accordance with 40 CFR 262.11. This is done by determining if the hazardous waste meets treatment standards, as applicable, in 40 CFR 268.40, 268.45 and 268.49 by testing the waste or using knowledge of the waste. When testing of the waste occurs, SW-846 methods identified in Table A.3 will be utilized. Characteristic waste along with underlying hazardous constituents (UHCs) 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.

Off-site waste will be 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) and this plan. Additionally, generator process knowledge, analysis, and/or information provided on the waste characterization form will be used to determine whether waste meets treatment standards in 40 CFR 268.40, 268.45 and 268.49 (as applicable). For characteristically hazardous waste subject to alternative treatment standards, generators have an obligation to identify whether UHCs 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.

For both on-site and off-site generated waste, 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.

In the event that the generator notification (required by 268.7(a)(2)) states, "*The hazardous waste may or may not be subject to the LDR treatment standards. The treatment facility must make the determination*", EQD will test the waste according to the specification of this plan and such testing will be performed by the methods identified in Table A.3.

A2.A.4(a) Dilution and Aggregation of Wastes [R 299.9627 and 40 CFR §268.3]

Listed and characteristic wastes, if destined for land disposal, may not be diluted from the point of generation to the point of land disposal. Knowledge of dilution will result in EQD managing the waste as prohibited from land disposal and proper treatment will occur.

The constituents of concern for on-site generated waste are identified via process knowledge and/or analysis of the waste to determine whether the constituents require treatment. Constituents that may fluctuate will either be analyzed more frequently for a determination of their treatment requirements or the waste will conservatively be managed to require treatment of those constituents.

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, and, 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 required supporting information, forms the basis upon which the facility determines if the waste can receive an approval. The approval may be for storage, transshipment, and/or treatment at EQD. 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. Additionally, it will be assigned a management process that identifies how the waste will be handled at the facility once accepted. An approval letter is sent to the generator, directly or via the customer, which serves 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. Or when a change in a waste stream's characterization or treatment requirements occur, generators must provide notification of the change.
- ◆ Inspection of a waste shipment reveals 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 the information provided is accurate and up-to-date. For each hazardous waste approval the generator will be provided with a notification that informs them their annual review is required. The generator must provide certification that the information previously provided is factual and an accurate representation of the waste. If changes have occurred to the waste stream the generator is directed not to provide this certification. Changes which impact the wastes characterization result in an amendment of the existing approval or, if the changes are extensive, a new approval may be required. Waste that has not received a certification within one year of the last review will not be received at the facility until a certification is obtained or any changes in the characterization have been approved.

A2.B PRE-ACCEPTANCE

The pre-acceptance process outlines screening procedures taken by the TSD facility in order to inspect and, if necessary, analyze hazardous waste received at the facility. This is done in order to confirm the waste received is consistent with properties identified in the pre-approval process.

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 (handling method) determined during the pre-approval process described above. Containers that will be placed in storage will be labeled with the receipt information. During the pre-acceptance process EQD 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

After all paperwork has been reviewed and required sampling and screening is completed waste received is either accepted for treatment, storage, discrepant pending a resolution, or rejected. 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.

It should be noted that the facility may choose to collect additional samples and perform additional analysis in order to ensure safe and compliant management practices.

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 (as required) 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 LDR notification will be verified to confirm the waste codes and to ensure constituents subject to treatment are consistent with pre-approval information which established the handling method assigned to

the waste. The manifest will also be compared to the number of containers, the volume, and/or the weight of the waste in the shipment.

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 equipment used to obtain a representative sample of the waste to be evaluated are summarized in Table B.1. The purpose of the sampling (when necessary) is to determine if the material in the waste containers conforms to the information provided by the generators. The sampling is not intended to characterize the waste. It is merely intended to compare the information provided during the pre-approval process to the waste received.

As practicable, sampling techniques used for specific types of waste will correspond to those referenced in 40 CFR 261, Appendix I and USEPA SW-846 whenever possible. The sampling equipment and procedures described represent recommended sampling protocol for general types of waste material. Waste may require different sampling techniques than those outlined. Therefore, deviations from the recommended protocol do not constitute an excursion from acceptable sampling practices or the conditions of this WAP.

A number of factors are used to determine the proper sampling equipment. Waste properties are considered when determining the type of sampling equipment that will be used. Sample devices will vary according to whether the sample is liquid, solid or multiphasic and whether the liquids are viscous or free-flowing and solids are hard, soft, powdery, or clay-like. Table B.1 outlines sampling equipment which may be utilized based on the physical state of the waste and the size of the container.

If upon visual inspection the waste is observed to be heterogeneous, as much as practicable, the sample will be composed of each layer or sampled individually and either composited based on estimated proportions or evaluated separately. When possible core samples will be collected as far into the sample containers as is practicable. This is influenced by the physical state of the waste, container sample size and accessibility of the waste.

Another contributing factor in determining a sampling tool is the ease of use. For example a roll off box of soil may not be able to use an auger to sample the waste as it would require unsafe entry into the container in order to properly core into the waste. However, sampling may occur with a scoop/cup.

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. 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. Sampling equipment will either be cleaned by wiping, or water-rinsing into a container. Decontamination is only required if the material previously sampled is incompatible with the waste that will be sampled; contamination on the sampling equipment may dilute the sample being collected; the waste is non-hazardous or characteristically hazardous waste intended for Subtitle D disposal, but the equipment was previously utilized on listed waste. When decontamination is not feasible the sampling equipment will be properly disposed of.

Screening tests do not necessitate any sample preservation because screening is performed following the sample collection.

Upon completion of the paperwork review, non-bulk containers received are accounted for and placed in containment areas where waste screening sampling will occur. Except for material exempted in section

A2.B.1(d), EQD will visually inspect at least 10 percent of the manifested container count from each unique non-bulk approval number per shipment with at least 2 containers being opened for comparison when the manifested count would require only one container. Containers which contain waste materials that are visually similar will have separate samples collected from the containers that are visually inspected. Samples will be composited by waste stream in order to form a single sample for analysis. If the containers contain waste materials that visually differ from each other, an additional 10 percent of the manifested container count from each unique non-bulk approval number per shipment will be visually inspected. To the extent possible, samples will be collected of each type of differing material and individually evaluated.

Bulk containers (i.e. roll- offs, end dumps, etc) are sampled upon arrival at the facility while paperwork is being reviewed, and are placed in permitted storage or directly into permitted treatment tanks or the landfill. 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. If the containers contain waste materials that visually appear different, a sample will be collected of each type of differing material (to the extent possible) and individually evaluated. Grab samples will usually be collected from the top portion of the material as far down into the waste as the sampling apparatus allows. The horizontal location in which the waste is sampled is at the discretion of the sampler. Surficial grab samples can quickly demonstrate whether material sampled does or does not match the waste profile. Core samples are unlikely to be collected because of safety concerns associated with the container types and sampling equipment, but when possible they will be attempted.

The following information is included on the label:

Type of Sample	Label Requirements:
Bulk Loads	Transporter Name Truck #
Container Loads	Waste Code Manifest # Approval # Drum #

TABLE B.1 REPRESENTATIVE SAMPLING PROCEDURES FOR PRE-ACCEPTANCE SCREENING

(One page following this title page is Table B.1)

Table B.1 Equipment for Representative Sampling for Pre-Acceptance Screening

In sampling equipment and procedures described represent recommended sampling protocol for general types of waste material. Where any require different sampling techniques than those outlined.

Sampling Method/ Rationale	Sampling equipment	Viscous liquid		Single-Phase Liquid		Multi-Phase Liquid		Free flowing liquids and slurries		Hard Packed Solids/ Sludge		Soil or soil-like material		Dry powders and granules		Moist powders and granules	
		Non-Bulk	Bulk	Non-Bulk	Bulk	Non-Bulk	Bulk	Non-Bulk	Bulk	Non-Bulk	Bulk	Non-Bulk	Bulk	Non-Bulk	Bulk	Non-Bulk	Bulk
SW-846, Ch. 9	Dipper/Cup	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N
	Colliwasa/Tube/Drum Thief	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N
	Thief	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	N	N
	Trier	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y
	Scoop/Cup/Spoon/Trowel	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y
	Auger	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y

*Cup may act as dipper and/or a scoop

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 of samples collected as specified in A2.B.1(b) 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 B.2 identifies the waste screen procedures, including screening parameters, test methods, the appropriate reference (when available), and the frequency of waste screening. The screening parameters are completed in order to compare properties identified by the generator during the preapproval process to the waste received. This process is used to verify the material received is accurately described by the generator. They are also performed to verify potentially harmful properties of the waste.

If the results of the pre-acceptance screening agree with the pre-approval screening data, the container is accepted. If the results fall outside the profiled range of variability or produce an unexpected reaction then the waste discrepancy procedures identified in A2.B.2 will be triggered. If during the investigation it is determined that additional analysis is required to confirm generator information, confirmatory analysis may be performed according to A2.A.3(b).

Cyanide and H₂S screening parameters may not be required for each subsequent shipment. If the waste stream is not reasonably anticipated to exhibit a positive result from the screening parameter (based on pre-approval information provided) and the initial screening demonstrates the parameter is consistent with the pre-approval information, each subsequent shipment may not require screening for the parameter. Examples of these waste streams include, but are not limited to, waste that has been processed through a combustion process (such as incinerator ash); waste generated from air pollution control systems from a combustion process; listed waste that does not have cyanides or sulfides associated with the process; remediation waste in which the site history does not involve the use of cyanides or sulfides.

Reactivity, cyanide, and H₂S screening methods are intended to identify properties of the waste that may cause an adverse reaction during handling. If the waste will be handled in a manner that does not expose it to those conditions the screening procedure is not needed to safely manage the waste.

Subsequent shipments should remain consistent with the pre-approval information. Changes may be identified through screening procedures performed on each shipment. Communications with the generating facility will identify the cause of the change which may warrant additional screening and analysis.

TABLE B.2 PRE-ACCEPTANCE ANALYSIS PROCEDURES

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

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

**Frequencies will be completed as specified unless exempted as specified by A2.B.1(d)*

(Two pages following this title page contains Table B.2)

Table B.2 Pre-Acceptance Analysis Procedures

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

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

*Frequencies will be completed as specified unless exempted as specified by A2.B.1(b)

Parameter	Rationale	Analytical Method	Frequency*
Color	A comparison of the incoming wastes color to waste information presented during pre-approval.	Visual Assessment	Each incoming waste stream
Consistency	A comparison of the incoming wastes consistency to waste information presented during pre-approval.	Visual Assessment: Examples of consistency descriptors are as follows: dust, solid, semi-solid, sludge, liquid and/or debris	Each incoming waste stream
Odor (Incidental)	A comparison of the incoming wastes odor to waste information presented during pre-approval. Intended to detect potentially problematic odors that were misrepresented in pre-approval information.	Potentially problematic odors detected in the routine laboratory handling of a sample may result in rejection of the load unless the waste can be managed in such a way as to minimize odor emissions.	Each incoming waste stream
pH	A comparison of the incoming wastes pH to waste information presented during pre-approval.	If not visually apparent after looking at pH paper (SW846 9041A), an electronic measurement will be made (SW846 9040 and 9045)	Each incoming waste stream
Ignitability-Match Test	A comparison of the incoming wastes ignitability to waste information presented during pre-approval.	Internal Procedure: 5 plus or minus 1 gram of liquid waste is placed in a small container. Ignition of headspace is attempted with a match for 5 seconds.	Each incoming waste stream
Ignitability	Quantify flashpoint of waste that failed the match test to confirm D001 applicability when flashpoints are <140°F. A comparison of the incoming wastes ignitability to waste information presented during pre-approval.	SW 846 1010 or SW 846 1020	Waste streams which fail match test.
Reactivity- DKD (or equivalent reagent)	Verify potential for adverse reaction. Reactions are assessed to determine if the material is inconsistent with expected waste; whether additional handling and controls are required.	Internal Procedure: The test method is as follows: Approximately ten milliliters (mls) or equal volume of waste (wetted waste) is mixed rapidly with approximately ten cc DKD	Each incoming waste stream
Reactivity-Water	Verify potential for adverse reaction. Reactions are assessed to determine if the material is inconsistent with expected waste; whether additional handling and controls are required; and whether the waste reaction occurs may qualify as water reactive as specified by 40 CFR 261.23.	Internal Procedure: The test method is as follows: Approximately ten milliliters (mls) or equal volume of waste is mixed rapidly with approximately ten mls of water.	Each incoming waste stream
Reactivity-Bleach	Verify potential for adverse reaction. Reactions are assessed to determine if the material is inconsistent with expected waste; whether additional handling and controls are required.	Internal Procedure: The test method is as follows: Approximately ten milliliters (mls) or equal volume of waste (wet waste) is mixed rapidly with approximately ten mls sodium hypochlorite solution.	Each incoming waste stream
Reactivity-Caustic	Verify potential for adverse reaction. Reactions are assessed to determine if the material is inconsistent with expected waste; whether additional handling and controls are required.	Internal Procedure: The test method is as follows: Approximately ten milliliters (mls) or equal volume of waste (wet waste) is mixed rapidly with approximately ten mls sodium hydroxide	Each incoming waste stream

Table B.2 Pre-Acceptance Analysis Procedures

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

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

*Frequencies will be completed as specified unless exempted as specified by A2 B.1(b)

Parameter	Rationale	Analytical Method	Frequency*
Reactivity-Acid	Verify potential for adverse reaction. Reactions are assessed to determine if the material is inconsistent with expected waste; whether additional handling and controls are required.	Internal Procedure: The test method is as follows: Approximately ten milliliters (mls) or equal volume of waste (wet waste) is mixed rapidly with approximately ten mls Hydrochloric Acid.	Each incoming waste stream
Cyanide Screening	Verify potential for adverse reaction. Reactions are assessed to determine if the material is inconsistent with expected waste; whether additional handling and controls are required.	Internal Procedure: SW846 9014 coloring method reagents are added to a mixture of water and waste. In the presence of cyanide color change will occur. A violet color may be an indication that cyanides are present. A dark purple is an indication that the cyanide concentrations are potentially high. The detection when not expected or a dark color change will trigger an investigation of the waste.	Each incoming waste stream
H2S Screening	Verify potential for adverse reaction. Reactions are assessed to determine if the material is inconsistent with expected waste; whether additional handling and controls are required.	Internal Procedure: Mix waste in cup with acid. Approximately ten mls of waste is mixed with ten mls HCl solution to acidify the waste. A minimum of Detect H2S gas with lead acetate paper, gas tube or a hydrogen sulfide monitor.	Each incoming waste stream

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)]

Whenever possible it is preferred to visually inspect and sample waste received from off-site. Exceptions are only used when inspection and/or sampling may cause injury; collecting a sample would be unreasonably difficult if not impossible due to the nature of the waste (e.g. a steel object that would require a welding torch to cut off a sample) or the packaging in which the waste is shipped; visual inspection and/or sampling may damage the integrity of special packaging designed to shield the waste from contact with personnel, or prevent emission of dust or odors or other protections that such packaging may be intended to provide. In all cases, exceptions must be approved by the Administrator. Exceptions approved by the Administrator are listed below, including in each case an explanation for why the exception is necessary.

Exceptions:

- ◆ On-site generated waste
 - Exception: Visual inspection and sampling not required.
 - 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).
 - Exception: Sampling is not required only if it is not reasonably possible to collect a sample. Visual inspection is still required.
 - Reason for exception: Material cannot reasonably be sampled.
- ◆ Filters from inside tanks, molecular sieves, filters/ cartridges;
 - Exception: Sampling is not required only if it is not reasonably possible to collect a sample. Visual inspection is still required.
 - Reason for exception: Material cannot reasonably be sampled.
- ◆ Spent activated carbon, ion-exchange resins and other filtration type media.
 - Exception: Sampling is not required only if it is not reasonably possible to collect a sample such as filter media sealed inside a filter housing or filter media hardened into a monolith. It is acknowledged that these are expected to be relatively rare exceptions and that such filter media will normally be sampled. Visual inspection is still required.
 - Reason for exception: Material cannot reasonably be sampled.
- ◆ Asbestos-containing waste.
 - Exception: Sampling not required. Visual inspection must still occur but it is not necessary for the sampler to undo packaging, if applicable, inside the shipping container to perform the visual inspection. For example, if the profile states that waste is double bagged, the sampler is only required to visually verify that there are bags inside the shipping container but is not required to open the bags to inspect contents or to collect samples of the asbestos waste.
 - Reason for exception: The reason for the sampling exception is worker safety; it is best practice is to minimize asbestos fiber touch points. The reason for the visual inspection exception is safety concerns with accessing and opening wrapping (e.g. double bagged asbestos inside a bulk shipping container). If the waste can be viewed without opening wrapping, then a visual inspection should occur.
- ◆ Waste capable of causing offsite odor issues.
 - Exception: Visual inspection and sampling are not required.
 - Reason for exception: Avoid an offsite odor issue.

- ◆ Waste with an acute health hazard such as hydrofluoric acid, arsenic pentoxide, and potentially infectious waste such as sewage, fecal matter, or selected waste from medical, veterinarian, or mortuary facilities.
 - Exception: Visual inspection and sampling are not required.
 - Reason for exception: Reduce the risk of acute health effects.
- ◆ Waste in sealed, special packaging not readily or safely opened by facility employees and the purpose of the packaging is to prevent contact of the waste with leachate (to minimize leaching of contaminants or prevent undesirable chemical reactions with leachate such as the formation of hydrogen sulfide gas from the reaction of leachate and sulfur), contain strong odors (e.g. MGP waste), prevent emission of highly toxic substances (e.g. dioxins) or some other protective function. There must be a special reason for the packaging. If there is no protective purpose for the packaging, then the presence of such packaging does not exempt the waste from the inspection and sampling requirement.
 - Exception: Visual inspection and sampling are not required only if the packaging is not readily or safely opened or opening the packaging would irreversibly remove the protection the packaging is intended to provide.
 - Reason for exception: To prevent injury to facility employees from attempting to open packaging not readily opened and/or to ensure the integrity of packaging intended to achieve a protective function such as preventing leaching, containing odors and preventing emission of highly toxic substances.
- ◆ Small containers of waste inside a larger container of waste. Example: lab pack chemicals in jars, bottles, cans, etc.
 - Exception: Sampling is not required.
 - Reason for exception: Material cannot reasonably be sampled due to the small quantities of waste.

For some waste streams, it may be necessary to conduct the waste screening before arrival at EQD, such as at the site of generation. 40 CFR 264.13(a)(4) and (c) require an owner and operator of an off-site facility (i.e. the TSD facility) to establish procedures utilized in order to inspect, and if necessary, analyze each hazardous waste movement received at the facility. If these evaluations must be completed at a location other than EQD, approval must be obtained from the Administrator. The request for approval must include the following

- a description of why the exception is requested;
- a detailed description of what activities will be performed off-site;
- who will perform the off-site activities; training that will occur to ensure conformance with the WAP;
- documentation that must be transmitted to the applicable receiving facility (EQD or EQD) prior to the waste being treated or disposed (i.e. with the waste shipment or before);
- records that will be maintained on-site.

An inspection of the manifest (generator must include the approval number and a certification stating the waste is fully and accurately described on the shipping document) and land disposal restriction certification (if necessary) must however still be executed. The facility may request the Administrator approve an exception to fingerprint sampling and analysis if it can demonstrate that the waste is homogenous. Such demonstration should be included in the request to the Administrator.

A2.B.2 PRE-ACCEPTANCE DISCREPANCY

Inconsistencies in the waste received and the waste profile information (or inaccurate or incomplete shipping documents) will result in a discrepancy which will be documented on the receiving document when the receipt is created. The generator or their representative will be notified in order to resolve the discrepancy if the facility receives a shipment of waste that is inconsistent with the waste profile information or if the waste shipment had incorrect, incomplete, or missing documentation. This may include but is not limited to the LDR notification or shipping paper. Discrepancies in paperwork or samples analyzed may result in changes which 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.

Resolutions may be noted on the receiving document or by an alteration of the waste approval information resulting in correction in the receipt documentation. If a resolution cannot be obtained, the waste may not be treated at the facility. If the discrepancy reveals the waste cannot be managed at EQD the waste may be transshipped to an alternate facility, or rejected to the generator or an alternate facility and the hazardous waste manifest will document the rejection in accordance with 40 CFR 264.72. If it is determined that the waste requires a rejection the transporter may retain custody while arrangements are made to reject the material, or the designated facility must provide for secure, temporary custody of the waste. The physical, ignitable, and reactive properties of the waste is evaluated in order to determine whether the material can be safely stored in the container storage areas and/or placed in transportation. Re-packaging may be required in order to meet all pre-transportation requirements to place the container back in transportation. If a significant manifest discrepancy (defined by 40 CFR 264.72(b)) is discovered that cannot be resolved with the generator or transporter within 15 days of receipt, facility personnel will submit to the administrator, 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.

A2.C WASTE ACCEPTANCE

The waste acceptance process outlines procedures that will be utilized in order to safely store and treat waste that has gone through the pre-acceptance process. Additionally the waste must meet the specifications outlined by the generator in the pre-approval process.

A2.C.1 CONTAINERIZED WASTE

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

Bulk containerized waste that is accepted by the pre-screening procedures is either directed to the Wastewater Treatment Plant or the Chemical Fixation plant for storage and treatment. Non-bulk containers will be placed in the appropriate EQD storage area until it may be treated or transshipped.

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 at EQD is segregated according to 49 CFR Subpart C—Segregation and Separation Chart of Hazardous Materials segregation rules (See Table C.1). EQD takes precautions to prevent the accidental ignition or reaction of ignitable or reactive waste being stored or reactive waste being 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. Ignitable and reactive waste are not approved for disposal at EQD.

TABLE 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 1, Zone A Hazardous Material classifications.
- C = Compatible
- X = Non-Compatible

A2.C.2 WASTE 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 (EQD)

During the pre-approval process treatment requirements are assessed based the concentrations of the constituents of concern and applicable waste codes and UHCs that make up the waste. The generator LDR notification (which has been verified for consistency with the pre-approval information during the pre-acceptance process) 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(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 B.2) evaluations as applied to wastes that are mixed in the treatment tanks. The individual waste streams comprising the mixture are similar in composition and are amenable to the same type of treatment, or are treated by the same type of treatment on which the treatment standard for that prohibited waste is based. EQD does not selectively bulk RCRA hazardous waste in order to achieve a reduction in concentrations rendering the waste non-hazardous, less hazardous or safer to transport, store, or dispose of. Bulking/consolidation may result in an incidental reduction of the hazards associated with the waste, but it is not intentional. The waste will continue to carry all applicable waste codes and UHCs and be shipped to an off-site facility to be properly managed.

Pending compatibility confirmation, liquid and solid hazardous and non-hazardous wastes may be bulked or consolidated into larger or fewer containers in any EQD 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 bulking and consolidation of dry solids will take place in the Chemical Fixation Building.

A2.C.4 TRANSSHIPPED WASTE

Waste that is transshipped is temporarily stored at the facility and sent to an authorized TSD facility that can manage the material for treatment and/or disposal. Any waste to be transshipped off-site to other permitted TSD facility's will be managed in accordance with the WAP. While awaiting transportation to the off-site permitted TSD facility, containers will be stored in permitted tanks or container storage areas.

A2.D POST TREATMENT AND LAND DISPOSAL RESTRICTION

This section outlines post-treatment and land disposal restriction requirements.

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. EQD 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 the constituents of concern associated with the waste codes characterized by the generator and UHCs (when required) 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. In the event that the generator notification (required by 268.7(a)(2)) states, “*The hazardous waste may or may not be subject to the LDR treatment standards. The treatment facility must make the determination*”, EQD will test the waste according to the specification of this plan and such testing will be performed by the methods identified in Table A.3. Table D.1 details the recommended treatment that may occur for the characteristic category.

TABLE D.1 CHARACTERISTIC TREATMENT IDENTIFICATION

CHARACTERISTIC	RECOMMENDED TREATMENT
Oxidizer	Deactivation 40CFR Part 268 Appendix VI <ul style="list-style-type: none"> • Chemical Reduction
Corrosive	Deactivation 40CFR Part 268 Appendix VI <ul style="list-style-type: none"> • Neutralization • Chemical Oxidation • Chemical Reduction
Reactive (sulfides and cyanides)	Deactivation 40CFR Part 268 Appendix VI or an equivalent <ul style="list-style-type: none"> • Chemical Reduction • Chemical Oxidation • Stabilization
Metal bearing waste	<ul style="list-style-type: none"> • Stabilization, Precipitation, Chemical Reduction, Chemical Oxidation
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 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.

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 with 40 CFR 268.40, prohibited waste identified in the table “Treatment Standards for Hazardous Wastes” may be land disposed at a landfill that is permitted to dispose of the material, 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 standards specified in §40 CFR 268.44-46 and 268.49 may be applied to waste or treatment residual. The presence of a listed code or use of a treatment method or standard requiring Subtitle C disposal. Characteristic wastes that are decharacterized and meet other applicable treatment standards may be disposed of at a non-hazardous permitted Subtitle D landfill, or a Subtitle C landfill.

A2.D.2(a) Characteristic Wastes

Characteristic waste codes acceptable for storage, treatment and disposal are outlined in Table D.2. 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. Waste codes will be treated to treatment standards identified in 40 CFR 268.40. In addition to the waste codes, UHCs 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 (See A2.D.3) that the waste has met applicable LDRs or has been appropriately decharacterized waste will be landfilled.

Tanks will be decontaminated if changed from the storage/treatment of listed wastes to characteristic or non-hazardous wastes that are intended to be disposed of in a Subtitle D landfill. Decontamination consists of water washing and/or dry decontaminating the tank. The rinse waters and/or dry decontamination material is directed to a listed batch tank (containing a compatible waste). The decontamination is documented on a specific form each time it is completed. Tanks will be emptied to the fullest extent possible if changed from the storage/treatment of characteristic or non-hazardous wastes to listed wastes.

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 Table D.2. 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.

Where a waste is both listed under 40 CFR 261, subpart D and exhibits a characteristic under 40 CFR 261, subpart C the treatment standard for the waste code listed in 40 CFR part 261, subpart C will be applicable unless the treatment for the listed waste does not include a treatment standard for the constituent that causes the waste to exhibit the characteristic.

Treatment standards for F001-F005 non-wastewater constituent's carbon disulfide, cyclohexanone, and/or methanol apply to wastes which contain only one, two, or three of these constituents. Compliance is measured for these constituents in the waste extract from test Method 1311, the Toxicity Characteristic Leaching Procedure found in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA Publication SW-846, as incorporated by reference in § 260.11. If the waste contains any of these three constituents along with any of the other 25 constituents found in F001-F005, then compliance with treatment standards for carbon disulfide, cyclohexanone, and/or methanol are not required.

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

Laboratory Packs (lab packs) are larger containers with a wide variety of sizes of containers inside (consistent with DOT and other regulatory requirements), holding a variety of hazardous and non-hazardous waste. To be placed in a lab pack, the smaller containers must be chemically compatible with one another and must be separated from each other with a compatible absorbent material that is capable of absorbing all of the liquid contents of the inside containers. Laboratory packs may contain virgin, off-specification commercial chemical products, manufacturing chemical intermediates, used and unused laboratory reagents, laboratory formulations and a wide variety of chemicals encountered in laboratories.

Lab packs are received at EQD where they are opened the contents are removed, or depacked. The like-kind wastes are then repackaged together. The depacking area contains the walk-in laboratory hood pour-off area. Laboratory packs are de-packed and re-packed in this area. For instance, the containers within a lab pack are sometimes removed and placed into a larger or smaller lab pack container. This activity does not involve opening the smaller containers within the lab pack. If small containers from within a lab pack are to be opened, it is done in the fume hood located in the depacking area. Compatible lab pack quantity waste may be consolidated from small containers into larger containers. This activity takes place under a walk-in laboratory airflow hood. This process is known as pour-ups.

Pour-ups are set up so that only one group of chemically compatible material is processed at any given time (e.g., organic solvents will not be processed at the same time as inorganic acids). The technician establishes the compatibility groups by reviewing lab pack inventories and using available information from sources such as reference books, generator supplied information, SDS, etc. Before any new waste is added to the pour-up container, the waste is checked for compatibility with the contents of the pour-up drum under the pour-up room hood. A small sample of waste from the lab pack container is added to a vessel containing a sample of waste already in the pour-up container. A 5-gallon polyethylene pail is typically used for this compatibility procedure. If the waste passes the compatibility test, it may be added to the contents of the drum. If the waste does not pass, it may be re-characterized for future pour-ups or it may be re-lab packed and placed into storage for shipment to an appropriate disposal site.

Pour-ups are combined in containers that are compatible with the wastes to be poured-up, e.g., acids are poured-up into polyethylene or other appropriate plastic container and not into steel drums. Pour-ups are combined into 55-gallon containers or smaller. After a pour-up is complete, the pour-up container may be further consolidated or bulked. For example, if appropriate and compatible, the drum may be consolidated into a batch for transshipment to a permitted facility. Likewise, compatible solids may be bulked into a roll-off box for subsequent treatment on-site or off-site as appropriate.

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.

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)]

Debris means solid material exceeding a 60 mm particle size that is intended for disposal and that is: A manufactured object; or plant or animal matter; or natural geologic material. However, the following materials are not debris: any material for which a specific treatment standard is provided in Subpart D, Part 268, namely lead acid batteries, cadmium batteries, and radioactive lead solids; process residuals such as smelter slag and residues from the treatment of waste, wastewater, sludges, or air emission residues; and intact containers of hazardous waste that are not ruptured and that retain at least 75% of their original volume. A mixture of debris that has not been treated to the standards provided by § 268.45 and other material is subject to regulation as debris if the mixture is comprised primarily of debris, by volume, based on visual inspection.

Hazardous debris is debris that contains a hazardous waste listed in subpart D of part 261 of this chapter, or that exhibits a characteristic of hazardous waste identified in subpart C of part 261 of this chapter. Any deliberate mixing of prohibited hazardous waste with debris that changes its treatment classification (i.e., from waste to hazardous debris) is not allowed under the dilution prohibition in § 268.3.

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.

EQD treats hazardous debris in accordance with immobilization technologies specified in 40 CFR 268.45. 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. If immobilization technologies are used, they must be performed as defined in 40 CFR 268.45.

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(f) Soil

[R 299.9627 and 40 CFR §§268.2(g), 268.7, 268.9, 268.36, 268.49 and 270.13(n)]

Soil includes any unconsolidated earth material composing the superficial geologic strata (material overlying bedrock), consisting of clay, silt, sand, or gravel size particles as classified by the U.S. Natural Resources Conservation Service, or a mixture of such materials with liquids, sludges or solids which is inseparable by simple mechanical removal processes and is made up primarily of soil by volume based on

visual inspection. Any deliberate mixing of prohibited hazardous waste with soil that changes its treatment classification (*i.e.*, from waste to contaminated soil) is not allowed under the dilution prohibition in § 268.3.

Constituents subject to treatment are any constituents listed in § 268.48 Table UTS that are reasonably expected to be present in any given volume of contaminated soil, except fluoride, selenium, sulfides, vanadium, zinc, and that are present at concentrations greater than ten times the UTS. PCBs are not constituent subject to treatment in any given volume of soil which exhibits the toxicity characteristic solely because of the presence of metals.

Prior to land disposal hazardous constituents subject to treatment may be treated to the non-wastewater standard for the hazardous waste contaminating the soil, or in accordance with alternative treatment standards set forth in 40 CFR 268.49 which allow hazardous constituents to be reduced by at least 90-percent through treatment or hazardous constituents must not exceed 10 x UTS at 40 CFR 268.48. Soils that exhibit the characteristic of ignitability, corrosivity, or reactivity must be treated to eliminate these characteristics.

A2.D.2(g) Dilution and Aggregation of Wastes [R 299.9627 and 40 CFR §268.3]

Listed wastes and characteristic waste, 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. Part 268 does not prohibit dilution in all cases. Rather, dilution is only prohibited if used “*as a substitute for adequate treatment*” to achieve compliance with or circumvent the LDR standards. EQD may combine several wastes from various generators to facilitate operational efficiency and utilization of available processing capacity. The aggregation is based on the various waste streams similarities in chemical compatibility, hazardous waste codes, and treatment requirements of the waste streams. Aggregation for centralized waste treatment may result in dilution which occurs in conjunction with adequate treatment. Incidental dilution may also occur when reagents are added to the waste in order to perform treatment. This too is considered dilution inherent to an effective treatment process as so long as the reagents are capable of effectively treating the constituents subject to treatment. For example, batches that require both oxidation and stabilization must have reagents that will oxidize and stabilize the constituents subject to treatment.

The facility does not impermissibly dilute or partially treat a waste to change its treatability category (*i.e.*, from non-wastewater to wastewater), in order to comply with different treatment standards. EQD 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. When listed waste is combined with characteristically hazardous waste the treatment standards applicable to the listed waste as well as the standards applicable to the characteristic waste (including the UHCs) are all being treated to the appropriate standard.

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

In accordance with the LDR regulations, treated wastes with concentration-based treatment standards must be evaluated to determine if applicable constituent concentration limits have been attained. This is accomplished by testing the treatment residue to demonstrate the applicable LDR treatment standards have been met.

A single random sample of treatment residue will be sampled from every treatment tank that requires verification that the waste meets the applicable LDR numeric-concentrations prior to land disposal. Each grab sample will be collected from a random vertical and horizontal location using an excavator to reach the

selected sampling point, and collecting the sample from the excavator bucket with a disposable scoop or cup. The sample is then analyzed for constituents of concern that were subject to treatment.

Mixing is completed using an excavator operated by qualified personnel trained on proper mixing techniques and the importance of evenly distributing waste and treatment reagents in each batch. Adequate mixing is a crucial component to LDR compliance. Mixing occurs as waste and treatment reagents are added to each batch. Once all waste and treatment reagents have been added, the batch is again thoroughly mixed.

After initial sampling is completed treatment reagents continue to interact with the waste further stabilizing and oxidizing organics. The additional time is known as the "cure time". Additional cure samples may be collected once the waste has had more time to cure (typically at least 2 hours). Cure samples are immediately placed into testing after collection.

As practicable, sampling techniques used for specific types of waste will correspond to those referenced in 40 CFR 261, Appendix I and USEPA SW-846 whenever possible. The sampling equipment and procedures described represent recommended sampling protocol for general types of waste material. Waste may require different sampling techniques than those outlined. Therefore, deviations from the recommended protocol do not constitute an excursion from acceptable sampling practices or the conditions of this WAP.

Sampling equipment is constructed of non-reactive materials. Decontamination is not required as the excavator bucket is only capable of biasedly contaminating the sample.

In most instances treatment residual sample preservation is not necessary because analysis will be performed following the sample collection.

Type of Sample	Label Requirements:
Treatment Tanks	Batch ID # Date Time Sampled

The sample is then taken to the laboratory for analysis. Table D.2 outlines the test methods that will be utilized to verify LDRs. Samples collected for purposes of metals concentration determinations may be divided into multiple TCLP tests in order to obtain checks of the effectiveness of the treatment as it relates to the mobility of the contaminants. These check samples are not utilized for purposes of demonstrating compliance. They provide an early indication (instead of waiting for the full required extraction time period) of whether the additional cure time or retreatment is needed. At least one original and cure TCLP extraction set up is agitated uninterrupted for 18 ± 2 hours and is used to demonstrate compliance with applicable LDRs. The interruptions in the check sample process in order to evaluate the progress of the extraction, eliminates the ability to use the data for compliance purposes. These interruptions also may inappropriately bias the concentration high or low, and as a result may not be relied upon.

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 residue is held in the waste treatment tanks while testing is occurring. 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.

The decision to retest or retreat is determined through experience with the waste and treatment process, the amount of time the waste has cured, and the tank failure concentration. Concentration failures of metals

typically result in a retreatment while organics may result in resampling if the failure concentrations were near the applicable LDR concentration and additional cure time continued to destroy the compounds.

TABLE D.2 LAND DISPOSAL RESTRICTION VERIFICATION

(Table D.2 Contains 141 pages, numbered 1 – 141)

A2.E LANDFILLED WASTES

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

This section outlines additional requirements specific to landfilled waste.

A2.E.1 CONTAINERIZED OR BULK WASTES

Prior to transporting waste to a landfill, waste is inspected for the presence of free liquids. For waste to be approved into a landfill, the generator has certified that the waste does not contain free liquids. This certification may be relied upon unless there is visual evidence that contradicts this certification. If there is visual evidence of free liquids, a sample of the waste that appears to contain free liquids may be analyzed by the Paint Filter Liquids Test, Method 9095 in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," EPA Publication No. SW-846 in which case the waste may only be landfilled as-is if the sample passes the test. Alternatively, in lieu of a test, it may be conservatively assumed to fail a Paint Filter Liquids Test in which case the waste may not be landfilled as-is.

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

The presence of biodegradable sorbents is identified during the pre-approval process. Generators that have identified the presence of biodegradable sorbent in their waste are not permitted to be directly disposed of in the landfill until the waste is stabilized with non-biodegradable sorbent. EQD do not add biodegradable sorbents to any on-site generated waste.

A2.E.3 WASTE SHIPPED TO SUBTITLE C FACILITIES

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

For prohibited 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 requirements applicable to generators under R 299.9627 and 40 CFR §268.7(a) and (b)(6).

A2.E.4 WASTE SHIPPED TO SUBTITLE D FACILITIES

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

EQD ships RCRA hazardous waste to a permitted non-hazardous waste landfill if it is decharacterized and meets all applicable LDR treatment standards (including UHCs). Listed hazardous wastes that meet the criteria established in 40 CFR 261.3(g) may also be sent to a non-hazardous waste landfill. Hazardous debris that has been treated using the destruction or extraction method of treatment, described in 40 CFR 268.45 may be disposed in a non-hazardous waste landfill.

The facility will submit a one-time notification and certification for characteristic wastes, or listed wastes which are listed only because they exhibit a characteristic and have been treated to remove the hazardous characteristic to no longer be considered hazardous. The certification and all treatment records will be placed 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.

A2.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 EQD.

Materials from off-site sources that are beneficially reused by EQD for waste treatment (e.g., kiln dust, sodium hydroxide) 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)]

This section is intended to document the necessary notification and recordkeeping requirements associated with land disposal restrictions and the operating record as it relates to the WAP.

A2.F.1 RETENTION OF GENERATOR NOTICES AND CERTIFICATIONS

[R 299.9627 and 40 CFR §268.7(a)(7)]

EQD 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 prohibited 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 prohibited 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 prohibited waste or treatment residue of a prohibited 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).

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)]

EQD 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 on-site 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 of inspections required by Section O of the permit.
- Waste minimization certification.

- LDR generator notices and TSD facility certifications and demonstration (which will also document treatment failures that have occurred), including notices of exclusion from the definition of hazardous waste, solid waste, or Subtitle C regulation required by 40 CFR 268.7.
- On-site 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 EQD 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.4 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 A2.C.6.

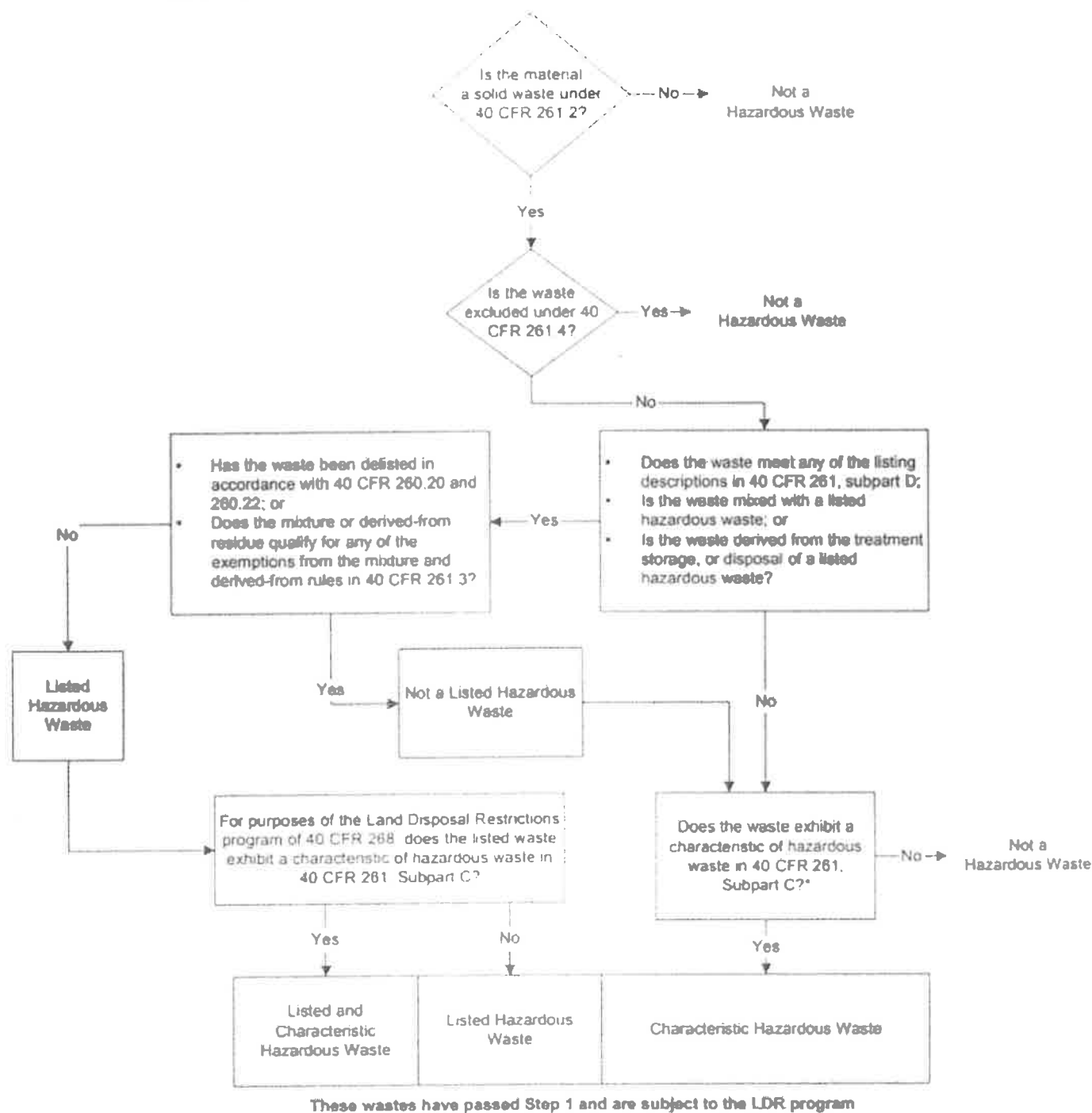
Hazardous waste from a foreign source Subject to 40 CFR 262, Subpart H must submit the following notices:

- 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 IDENTIFICATION

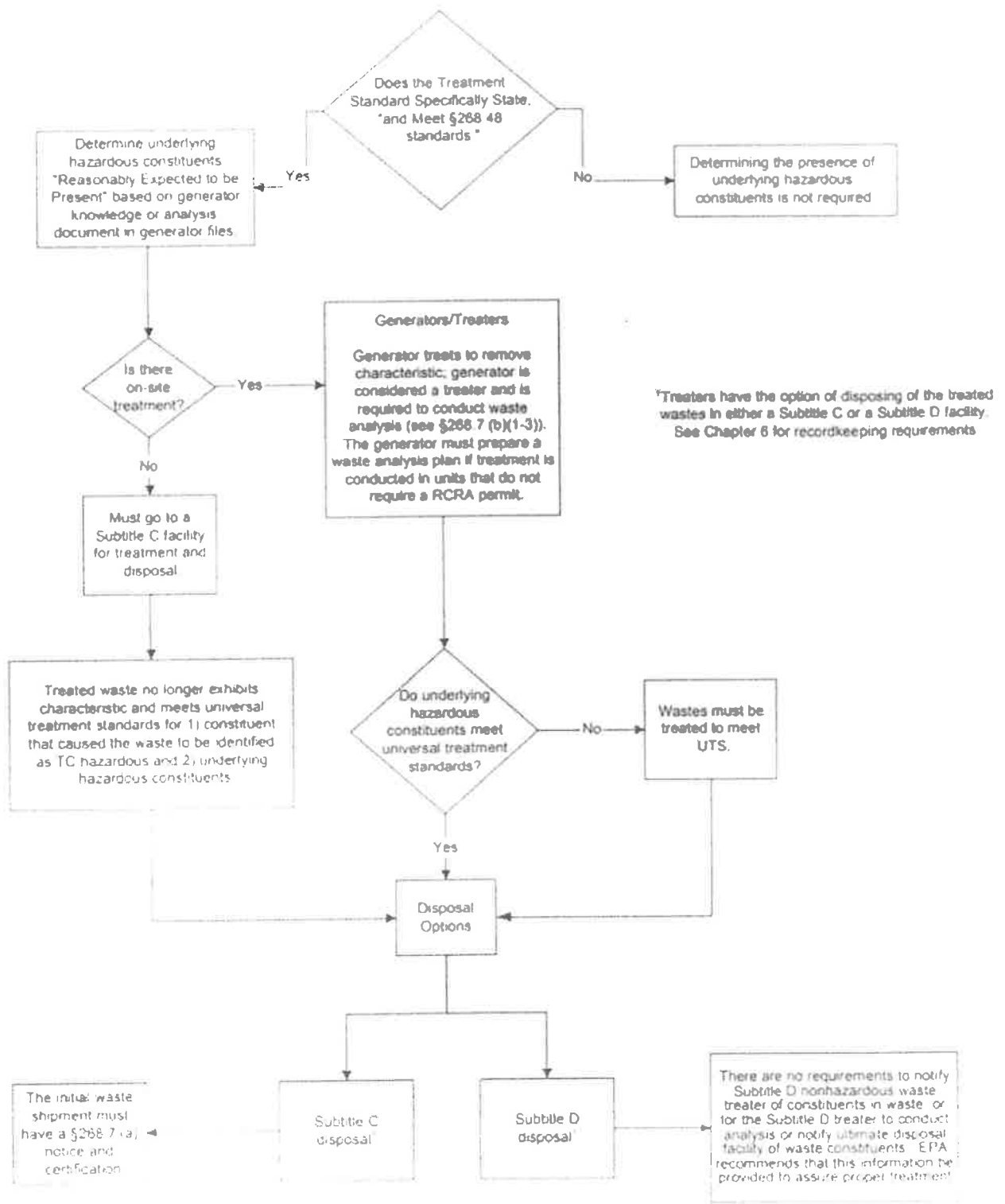
(Tables taken from *Land Disposal Restrictions: Summary of Requirements*, Issued Aug. 2001. EPA-530-R-01-007)

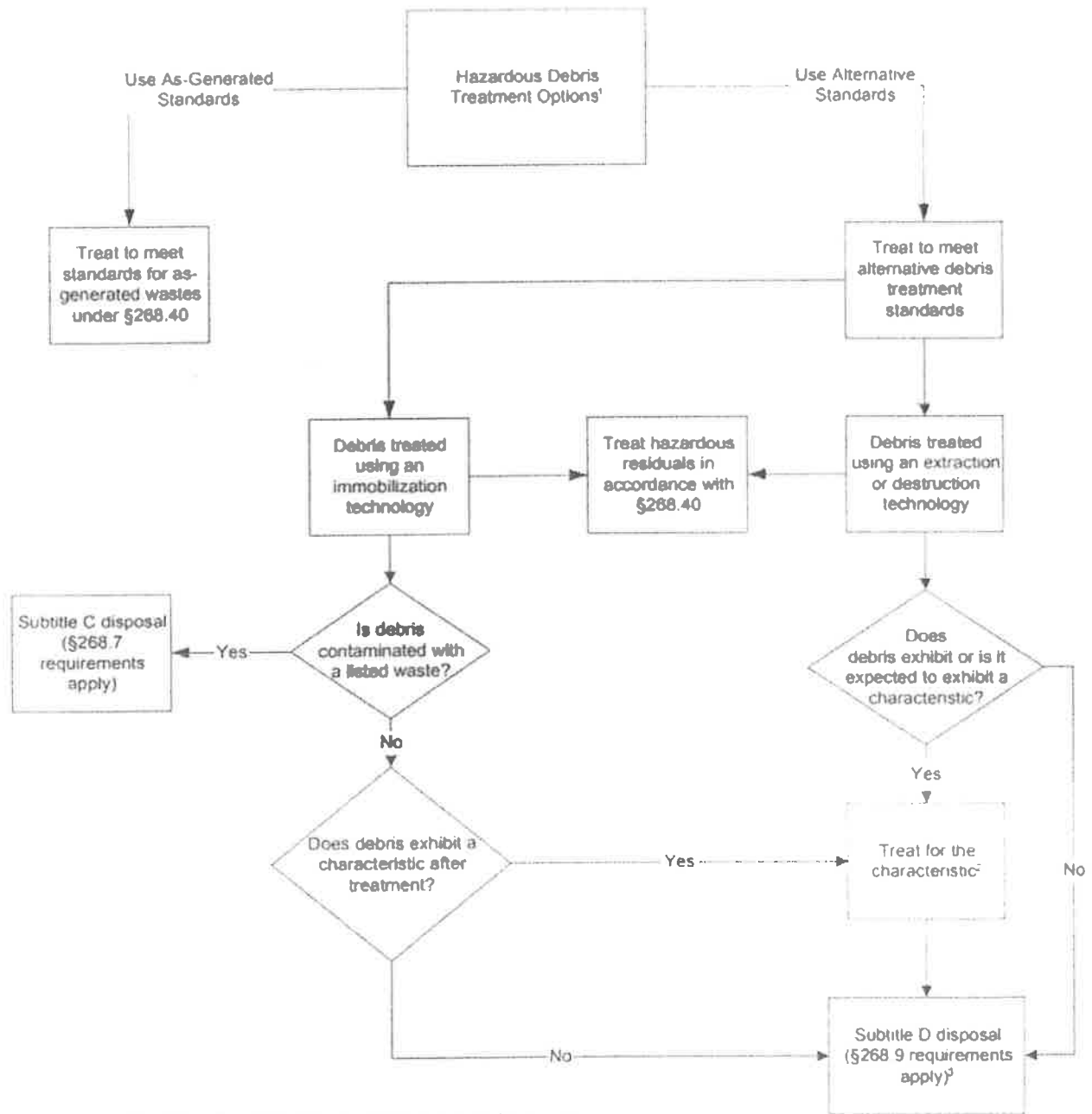
Waste Characterization Determination Flow Chart



*Note exception for mixtures of characteristic wastes and mining/mineral processing wastes in 40 CFR §261.3(a)(2)(i)

Underlying Hazardous Constituent Flow Chart

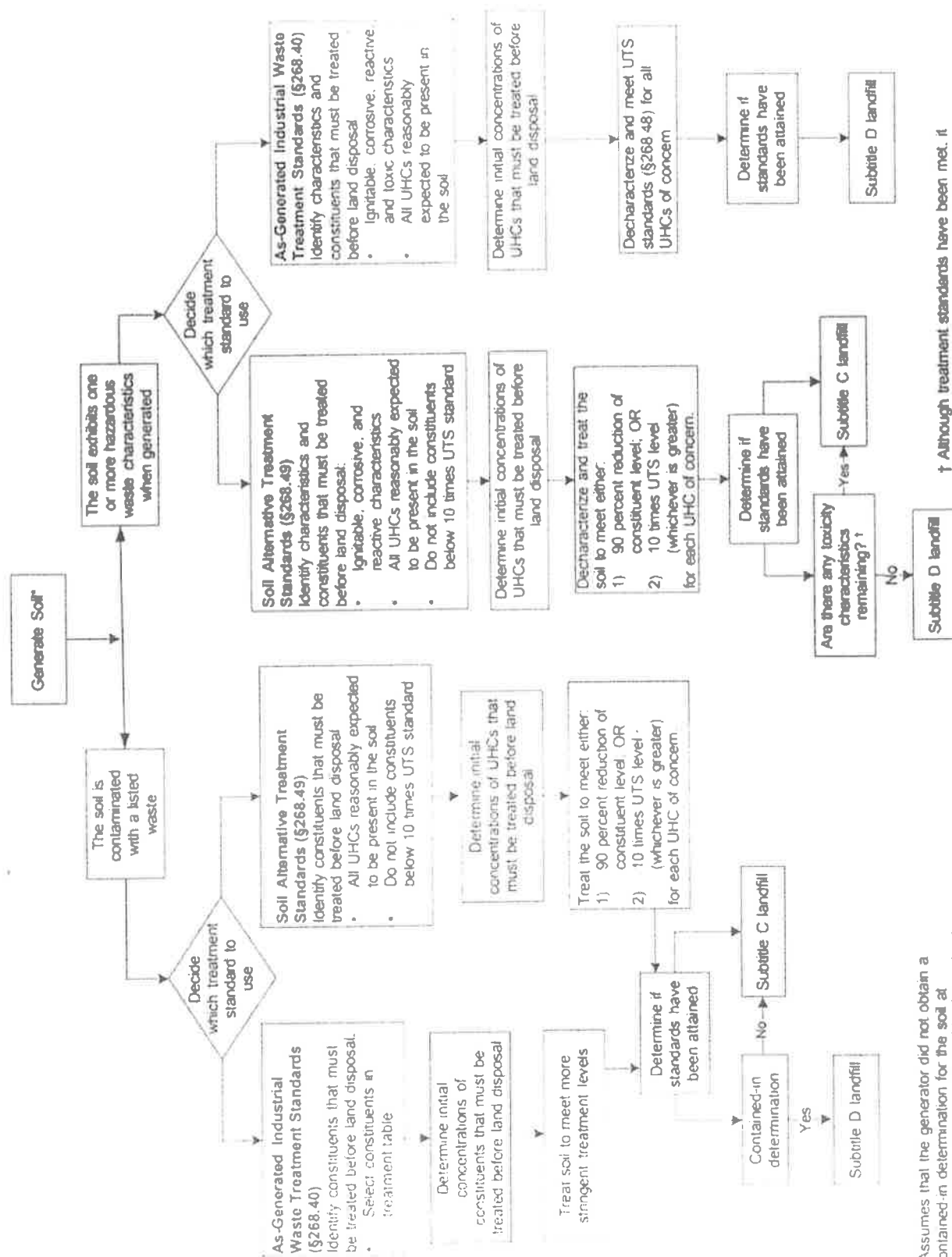




¹Any deliberate mixing of prohibited waste with debris that changes its treatment classification (i.e., from waste to debris) is not allowed under the dilution prohibition in 40 CFR 268.3.

²Treaters have the choice of meeting the treatment standards for as-generated wastes or the alternative treatment standards for debris.

³Treaters have the option of disposing of their treated wastes in either a subtitle C or a Subtitle D facility.



*Assumes that the generator did not obtain a contained-in determination for the soil at generation (However, a contained-in determination can be obtained at any point between generation and disposal)