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 EQ Detroit (EQD) Detroit, Michigan. The information included demonstrates how EQD 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 EQD: *(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.

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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 and waste sent off site for land disposal are treated to the appropriate regulatory standards. Pre-approval, pre-acceptance, acceptance, treatment, and post-treatment evaluations are completed by qualified personnel (individuals who have been trained and are familiar with the procedures essential to executing the requirements of the Waste Analysis Plan (WAP)). All on-site and off-site generated waste will be evaluated through the procedures outlined in this plan unless otherwise specified. The WAP shall not conflict with EQD's obligation to operate in accordance with 40 CFR 264 or 268.

The purpose of the WAP is to specify the methods that will be used to meet the waste analysis requirements for the Land Disposal Restriction (LDR) program found in the Code of Federal Regulations, Title 40 (40 CFR) 268.7, as required by Rule (R) 299.9605(1), and 40 CFR 264.13(b)(6). These methods include the required elements described in 40 CFR 264.13(b) (1-5); the WAP must specify the parameters and rationale for analysis, the test methods, sampling methods, and frequency for each hazardous waste.

All analysis performed pursuant to this WAP will be consistent with the WAP Quality Assurance/Quality Control Plan (QA/QC Plan) (included in Appendix C). All samples of EQD'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 EQD 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 EQD 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 EQD operating record until closure of EQD. 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 used by the Treatment Storage Disposal (TSD) facility to characterize their on-site generated waste. It also defines the information that the TSD facility requires for off-site generated waste to obtain detailed chemical and physical information and analysis that is 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 are the hazardous waste identified by waste code in Appendix A. Additional information regarding the waste that may be received is outlined below.

Characteristic waste codes which may be approved into EQD are provided in Appendix A, along with land disposal restriction (LDR) requirements for treatment and disposal off-site. Waste with analytical concentrations exceeding characteristically hazardous levels is 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 off site. Disposal typically occurs at a Subtitle D landfill. The waste will be treated to remove the hazardous characteristic(s) and meet applicable LDRs prior to disposal off site.

Generator process knowledge significantly contributes to the documentation of the applicability of a listed waste code. Analytical concentrations exceeding applicable land disposal restrictions will 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 off site. Delisting of waste codes must utilize procedures detailed in 40 CFR 260.22. This refers to 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. The delisting must be obtained from the generator prior to generating and shipping the waste to EQD. If the generator has not obtained a delisting for a waste stream the waste stream cannot be shipped to EQD under a delisting. 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 waste code for each corresponding characteristic. Waste identified as meeting a listing and exhibiting a characteristic will be identified with the listed waste code for the purpose of manifesting, etc.

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

Hazardous debris can be treated using 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 to meet the alternative treatment standards for hazardous debris provided in 40 CFR 268.45. See section A2.D.2(e) - Contaminated Debris for more details.

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. Universal waste that meets the criteria established by the rule may be transshipped from EQD for recycling or disposal in accordance with the requirements of the rule at an off-site location.

The WAP describes precautions that will be taken to prevent uncontrolled conditions which could do any of the following:

- 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 the 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,
- D003 Reactive wastes (except cyanides and sulfides) for treatment nor storage unless the waste no longer exhibits the characteristic of reactivity,
- Toxic Substances Control Act (TSCA) Polychlorinated Biphenyl (PCB) waste for treatment nor storage,
- Ignitable wastes (D001 when flashpoint is <140F) with a flashpoint <90F may be stored but are prohibited from treatment,
- Technologically Enhanced Naturally Occurring Radioactive Material (TENORM) and Low Level Radioactive Mixed Waste.
- Dioxin-containing waste requiring treatment for F020-F023, F026-F028, K043, and K099 may be stored and/or treated for constituents other than dioxins and furans (because dioxins and furans already meet applicable treatment standards prior to acceptance at EQD and other constituents of concern (i.e., regulated hazardous constituent) may still require treatment.), and
- Any materials deemed unacceptable by the General Manager of the facility.

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

Housekeeping, maintenance, laboratory, and waste processing activities may result in the on-site generation of waste at EQD (i.e., wastewater treatment filter cake and process debris generated as a result of waste handling). These are only examples and are not intended to be a comprehensive list. These wastes may include any of the acceptable wastes listed in the Appendix A. Waste generated at EQD is evaluated in the same manner as off-site waste, utilizing procedures provided in sections A2.A.2, A2.A.4, A2.A.5, and A2.A.6. Table A.1 and A.3 specify the sampling, analytical methods, and the frequency of evaluation of on-site generated waste. Laboratory reports and waste characterizations are maintained at EQD as part of the operating record. Hazardous waste generated at EQD is also reported to the Director as part of EQD operating report in accordance with Rule 610(3) of Part 111.

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 WAP 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.

The variability of on-site generated waste will be determined in the same way as off-site generated waste. This can be found in section A2.A.1(a).

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 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 communicate that information fully and accurately 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 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 pre-approval 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, including whether a waste stream is an oxidizer.
  - Presence of radiological material (i.e., NORM/TENORM).
  - A determination of whether the waste qualifies as a Universal Waste.
  - Physical characteristics of the waste (i.e., odor, color, pH, and consistency (including free liquids))
  - Chemical composition of the waste
- 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 decide whether the waste is exempt from Subpart CC. Examples of acceptable knowledge include generator process knowledge, information included in manifests, shipping papers, and/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, including underlying hazardous constituents that are present or reasonably expected to be present in the waste stream and subject to treatment.
  - In the event 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 LDR determination (including identification of UHCs) will be made utilizing the sampling methods specified in A2.B.1.b and the test methods and treatment standards identified in Table D.2.

- 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 utilizing one or combination of the following:

- Testing a representative sample 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. Alternative methods must be capable of measuring the constituent of concern, in the matrix of concern, at the concentration level of concern, at the degree of accuracy necessary to make a determination. Method defined parameters must utilize the prescribed method or a combination of an alternate method and knowledge (e.g., total metals analysis coupled with 1 in 20 dilution provided by the TCLP fluid can demonstrate leachable concentrations are not exceeded without performing a TCLP test).

- Applying knowledge of the hazard characteristic considering the materials or processes used.
  - Acceptable generator knowledge (referred to in this WAP as "knowledge"), that may be used includes but is 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 basis for the generator process knowledge will be documented in the waste streams file.

The required information provides EQD with detailed information regarding the chemical and physical properties of the waste. Appendix C outlines the process in which characterization and LDR compliance is evaluated. A waste is considered hazardous by being specifically listed as a hazardous waste or by exhibiting a characteristic of hazardous waste. Once it is determined that the waste is hazardous the applicability of LDRs is evaluated.

The source of the waste and/or the process that produced the waste is evaluated to identify potential chemical and physical hazardous, constituents and characteristics that are reasonably expected to be present in the waste, as well as confirm generator characterization of a listed waste. Analysis to support the characterization is requested unless knowledge of the waste can support the generator characterization. Knowledge also contributes to the potential scope of analysis-based determinations that are required. For example, a manufacturing process that identifies the use of heavy metals will require evaluation of leachable metal contamination but can eliminate the need for volatile organic compounds if adequate process knowledge determines they are not present.

The waste is assessed for treatment and compatibility to ensure it can be safely and compliantly managed at EQD.

If the information provided is not sufficient, procedures identified in A2.A.5 will be utilized to solicit more information until appropriate characterization is documented. If the characterization cannot be supported, an approval will not be issued, and the waste will not be received. Once it is determined that the information is complete, a handling method and approval number is assigned to the waste stream. The 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 that is designated for Subtitle D disposal may be conservatively managed in a Subtitle C landfill. Waste streams that do not require additional treatment may be assigned a handling method that allows for direct disposal to an offsite facility.

An approval letter is sent to the generator, serving as notification that the waste, as represented, may be shipped to EQD, and EQD has the appropriate permit(s) to accept the waste. All approval files are maintained in EQD operating record in a paper or other archival form. Approval files with no shipments before expiration will not be kept in EQD 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

Unlike off site generated waste, EQD is the generator of on-site generated waste and is responsible for ensuring compliance with generator waste characterization requirements. Knowledge of the process and\or 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. The source of the waste and/or the process that produced the waste is evaluated to identify potential chemical and physical hazards, constituents expected to be present in the waste, as well as identify contaminant of concern in listed waste. When generator knowledge is not sufficient to characterize a waste stream generated, EQD will select appropriate analytical parameters based on what is reasonably expected to be present by using knowledge of the generating process. When available, knowledge will be utilized to determine constituents expected to be present. Table A.3 lists the potential waste analysis parameters. The table includes the rationale for the selection of these parameters, test methods that will be used to test for these parameters, the appropriate reference.

Each waste stream must be individually evaluated to determine its characterization and treatment requirements, as well as decide if sampling and analysis is necessary. Knowledge of the waste is a critical component of the evaluation. The following provides the thought process used in evaluating on-site generated waste:

- Knowledge can be utilized to determine if it is not hazardous when the generating process is not listed and does not have any characteristically hazardous constituents placed in or created by the generating process.
- A generating process that has an input with fluctuations that do not alter the characterization, as demonstrated by knowledge, will not require reoccurring sampling analysis unless there is a change to the generating process that impacts the characterization (which includes the constituents subject to treatment).
- Waste streams generated at the highest input levels expected will provide a worst-case characterization and will not require periodic sampling and analysis as the characterization and management of the waste will be conservative for subsequent waste streams. For example, the composition of an industrial rinse water would be characterized according to the upper estimate of material contained in the rinse water based on one or more of the following: (1) analytical data

points collected, (2) the SDS(s) for material being rinsed and generator process knowledge (i.e. quantity of material being rinsed and quantity of water used for rinse).

- Waste streams can be managed conservatively and characterized as hazardous with all potential contaminants of concern reasonably expected to be present being treated for.
- When a thorough understanding of the waste and its variability is not available one of the following approaches may be used:
    - Tiered sampling egregious
        - Grab samples of solids can be multi-incremental grab samples with at least three points from a decision unit (the container) collected at random varying depths and locations or a single core sample that is mixed together to distribute the sample.
        - A single-phase liquid can utilize a single point.
        - A multiphasic waste sample will be collected reasonably proportional to each phase in the container to best represent the waste.

      At a minimum a second sample will be collected in the same manner to evaluate consistency with the initial sample's characterization. If the waste is demonstrated to have a consistent characterization (i.e. the same waste codes and constituents. The concentrations of the constituents can vary, but not to the extent the waste codes or constituents requiring treatment will change) the waste will be sampled and reevaluated again during the following quarter to confirm consistency and then again upon its annual re-evaluation. Thereafter, no analysis is required unless a change in the process occurs. If the characterization varies the waste can be characterized on a per container basis utilizing the same sampling method performed during initial sampling.

    - Waste will be reanalyzed annually to confirm consistency with the waste characterization.

If upon visual inspection or through knowledge of the process is determined to be heterogeneous the sample will be collected from 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 will behave during treatment of the commingled material. Individual grabs may be used to determine the worst-case scenario and establish conservative handling procedures.

Sampling techniques used for specific types of waste will correspond to those referenced in 40 CFR 261, Appendix I and Table A.1. 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. All methodologies will be updated and revised as the references are updated and revised.

The rationale for what sampling equipment will be used is determined by considering several 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 will be utilized based on the physical state of the waste. Appendix D describes sampling procedures used.

If the waste is 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. Alternatively, the sampler can randomly select samples or select samples from portions of the waste expected to have the highest level of contamination. The feasibility is determined by the sampler using reasonable judgment

considering numerous factors including safety, visual appearance, extent of apparent variability, accessibility, level of contamination on the material, etc.

The horizontal location in which the waste is sampled is also at the discretion of the sampler. The vertical depth of the sample is limited by the sampling equipment utilized and the physical properties 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 coliwassa 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 more practical.

Sampling equipment is constructed of non-reactive 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 are not necessary if samples are brought directly to the laboratory after sampling and analyzed upon receipt.

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. The third party selected shall be competent in analyzing the parameters of interest. Often a third-party accreditation agency such as NELAP, A2L2, ISO, etc., can be used to substantiate the competency of the third-party laboratory. In the absence of an accreditation EQD's WAP Quality Assurance/Quality Control (QA/QC) Plan will be followed. Where a test method is specified in subpart C of 40 CFR part 261, the results of the regulatory test, when properly performed, are definitive for determining the regulatory status of the waste if knowledge or other supporting information cannot be used.

TABLE 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

(Three pages following this title page contain Table A.2)

TABLE A.2 SAMPLING PRESERVATION

Parameter	Matrix	Sample Size[1]	Hold Time	Preservation (when not analyzed within 4 hours of receipt)	Container Type
Semivolatiles, Pesticides, and Herbices	Aqueous samples with no residual chlorine present	1L	Extracted within 14 days and extract analyzed within 40 days of extraction	0-6°C	Amber glass with PTFE lined lid
	Aqueous samples with residual chlorine present	1L	Extracted within 14 days and extract analyzed within 40 days of extraction	Add 3 mL 10% sodium thiosulfate solution per gallon (or 0.008%). Cool to 0 - 6 °C.	Amber glass with PTFE lined lid
	Concentrated Waste Sample	125mL	Extracted within 14 days and extract analyzed within 40 days of extraction	0-6°C	Glass with PTFE lined lid
	Solid	250mL	Extracted within 14 days and extract analyzed within 40 days of extraction	0-6°C	Glass with PTFE lined lid
Volatiles	Aqueous samples with no residual chlorine present	120mL	7 days	Cool to 4 ± 2C	3X 40mL VOA vials
	Aqueous samples with residual chlorine present	120mL	14 days	Collect sample in a prepreserved container containing either 25 mg ascorbic acid or 3 mg of sodium thiosulfate per 40- mL of chlorinated sample volume containing less than 5 mg/L of residual chlorine. Cool to 4 ± 2°C and adjust pH to less than 2 with HCl or solid NaHSO4	3X 40mL VOA vials
	Concentrated Waste Sample	125mL	14 days	Sample container cooled to 4 ± 2C for 48 hours or less then frozen to < -7°C OR preserved with methanol.	Glass with PTFE lined lid no headspace
	Solid	125	14 days	Sample container cooled to 4 ± 2C for 48 hours or less then frozen to < -7°C OR preserved with methanol.	Glass with PTFE lined lid no headspace
Cyanides	Water	500mL	14 days	4 °C / NaOH to pH ≥12	Plastic or Glass
	Solid	100g	14 days	4 °C	Plastic or Glass
PCB	Aqueous samples with no residual chlorine present	1L	None	0-6°C	Amber glass with PTFE lined lid
	Aqueous samples with residual chlorine present	1L	None	Add 3 mL 10% sodium thiosulfat solution per gallon (or 0.008%). Addition of sodium thiosulfate solution to sample container may be performed in the laboratory prior to field use. Cool to 0 - 6 °C.	Amber glass with PTFE lined lid
	Concentrated Waste Sample	125mL	None	0-6°C	Glass with PTFE lined lid
	Solid	250mL	None	0-6°C	Glass with PTFE lined lid

TABLE A.2 SAMPLING PRESERVATION

Parameter	Matrix	Sample Size[1]	Hold Time	Preservation (when not analyzed within 4 hours of receipt)	Container Type
Mercury	Water	400mL	28 days	HNO3 to pH<2	Plastic or Glass
Mercury	Solid	200g	28 days	≤6°C	Plastic or Glass
Metals	Water	600mL	6 Months	HNO3 to pH<2	Plastic or Glass
	Solid	200g	6 Months	NONE	Plastic or Glass
TCLP Metals	Solid	120g	180 days to TCLP extraction and additional 180 days from Preparative Extraction to determinative analysis	NONE	Plastic or Glass
TCLP Metals	Liquid	600g	180 days to TCLP extraction and additional 180 days from Preparative Extraction to determinative analysis	NONE	Plastic or Glass
TCLP Mercury	Solid	120g	28 days to TCLP extraction and additional 28 days from Preparative Extraction to determinative analysis	NONE	Plastic or Glass
TCLP Mercury	Liquid	600g	28 days to TCLP extraction and additional 28 days from Preparative Extraction to determinative analysis	NONE	Plastic or Glass
Paint Filter	All Matrices	250g	NONE	NONE	Plastic or Glass
Water Reactivity	All Matrices	25g	NONE	NONE	Plastic or Glass
Ignitability	All Matrices	25g	NONE	NONE	Plastic or Glass
Flashpoint	Liquid	125mL	14 days	4°C	Glass minimal headspace
pH- Screen	All Matrices	25mL	none	NONE	Plastic or Glass
pH characterization	All Matrices	50mL	24 hours	NONE	Plastic or Glass
Reactivity: Caustic/ Acid/ Bleach/ Kiln dust (or similar)	All Matrices	100g	None	NONE	Plastic or Glass

TABLE A.2 SAMPLING PRESERVATION

Parameter	Matrix	Sample Size[1]	Hold Time	Preservation (when not analyzed within 4 hours of receipt)	Container Type
Cyanide Screen	All Matrices	25g	24 hours	0-6°C	Plastic or Glass
Sulfide Screen	All Matrices	25g	24 hours	0-6°C	Plastic or Glass

1. Container capable of holding the mass or volume. In some instances, smaller sample sizes may be used if the material quantity meets the requirements of analytical methods to be performed.

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 proivdes waste code specific methods

Parameter	Rationale	Analytical Method	Frequency*
Color	Color is identified during preapproval so that staff will have a reference for the preacceptance process to confirm the proper waste is received.	Visual Assessment	•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	Consistency is identified during preapproval so that staff will be have a reference for the preacceptance process to confirm the proper waste is received.	Visual Assessment: Examples of consistency descriptors are as follows: dust, solid, semi-solid, sludge, liquid and/or debris. Identifies presence of oil-water phases or multiphases	•Initial Approval (when knowledge must be supported) • Change in the process generating the waste which will alter the characterization or treatability
Odor (Incidental)	Odor is identified during preapproval so that staff will be have a reference for the preacceptance process to confirm the proper waste is received.	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.	•Initial Approval (when knowledge must be supported) • Change in the process generating the waste which will alter the characterization or treatability
pH Solid	pH is identified during preapproval so that staff will be have a reference for the preacceptance process to confirm the proper waste is received.	Internal Procedure: The pH of the material will be measured 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 after mixing solid sample with an equal aliquot of water	•Initial Approval (when knowledge must be supported) • Change in the process generating the waste which will alter the characterization or treatability
pH Liquid	pH is identified during preapproval so that staff will be have a reference for the preacceptance process to confirm the proper waste is received. pH is used in corrosivity characterizations.	SW846 9040- pH Electrometric Measurement	•Initial Approval (when knowledge must be supported) • Change in the process generating the waste which will alter the characterization or treatability
Ignitability liquid	Quantify flashpoint of waste.	SW 846 1010A or SW 846 1020B	•Initial Approval (when knowledge must be supported) • Change in the process generating the waste which will alter the characterization or treatability
Ignitability Screen	Screening for ignitability in solid waste	Internal procedure: Attempt ignition of waste with flame for 5 seconds.	•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.	•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. Detect sulfide using lead acetate paper.	•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	•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.	•Initial Approval (when knowledge must be supported) • Change in the process generating the waste which will alter the characterization or treatability
Cyanide	Quantification of Cyanide Concentration	SW846 9010 and 9014 Total and Amenable Cyanide: Distillation; Cyanide in Waters and Extracts Using Trimetric and Manual Spectrophotometric Procedures.	•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 Polychlorinated Biphenyls (PCBs) by Gas Chromatography Prep: SW846 3550- Ultrasonic Extraction Prep: SW846 3510- Separatory Funnel Liquid-Liquid Extraction Prep: SW846 3580- Waste Dilution Cleanup:SW846 3665-Sulfuric Acid/ Permanganate Cleanup Cleanup:SW846 3620 - Florisil Cleanup	•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 proivdes waste code specific methods

Parameter	Rationale	Analytical Method	Frequency*
Metals	Quantification of Regulated Metal Concentration	SW846 6010 - Inductively Coupled Plasma-Atomic Emission Spectrometry Prep: SW846 3051A Microwave Assisted Acid digestion of Sediments, Sludges, Soils, and Oils Prep: SW846 3015A- Microwave Assisted Acid Digestion of Aqueous Samples and Extracts	•Initial Approval (when knowledge must be supported) • Change in the process generating the waste which will alter the characterization or treatability
Mercury	Quantification of Regulated Mercury Concentration	SW846 7473- Mercury in Solids and Solutions by Thermal Decomposition, Amalgamation, and Atomic Absorption Spectrophotometry SW846 7470 Mercury in Liquid Waste EPA 245.1 Determination of Mercury in Water by Cold Vapor Atomic Absorption Spectrometry	•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 Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) Prep: SW846 3550- Ultrasonic Extraction Prep: SW846 3510C- Separatory Funnel Liquid-Liquid Extraction Prep: SW846 3580- Waste Dilution	•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- Volatile Organic Compounds by Gas Chromatography /Mass Spectrometry SW846 8015- Nonhalogenated Organics by Gas Chromatography Prep: SW846 5030- Purge and Trap for Aqueous Samples Prep: SW846 5035- Closed system Purge and Trap and Extraction for Volatil Organics in Soil and Waste Samples	•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- Organochlorine Pesticides by Gas Chromatography Prep: SW846 3550- Ultrasonic Extraction Prep: SW846 3510C- Separatory Funnel Liquid-Liquid Extraction Prep: SW846 3580- Waste Dilution	•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- Chlorinated Herbicides by GC Using Methylation or Pentafluorobenzylation Derivatization SW846 8270 Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) Prep: SW846 3550- Ultrasonic Extraction Prep: SW846 3510C- Separatory Funnel Liquid-Liquid Extraction Prep: SW846 3580- Waste Dilution	•Initial Approval (when knowledge must be supported) • Change in the process generating the waste which will alter the characterization or treatability
TCLP	Preparatory Extraction method for applicable characterization or LDR confirmation purposes.	SW846 1311- Toxicity Characteristic Leaching Procedure To be followed by Analyte specific aqueous preparatory method and analytical method	•Initial Approval (when knowledge must be supported) • Change in the process generating the waste which will alter the characterization or treatability
Oxidizer Screen	Screening of Possible Oxidizer	ASTM D4981-08 Standard Test Method for Screening of Oxidizers in Waste	•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 by the generator is used as the basis for the chemical and physical analysis, and generators are responsible for ensuring the information is true, accurate, and up-to-date. Generators or an authorized representative, must certify the information provided is representative of the waste. Generators must provide information described in A2.A.2 to validate the characterization of their waste. All information available to EQD is reviewed to confirm the generator's characterization information.

Generator's basis for waste characterization generally fall into one of the following:

- Generators can conservatively characterize waste as hazardous for all potential contaminants of concern reasonably expected to be present above LDRs. This is supported by knowledge.
- A generating process that is not listed and that does not have any characteristically hazardous constituents placed in or created by the generating process, will not require any testing as knowledge can be utilized to determine it is not hazardous. Generators will be asked whether testing or knowledge is used for justification of their characterization.
- A generating process that does involve characteristically hazardous constituents and/or physical properties must be able to sufficiently characterize the waste to determine compliance with characteristic standards and applicable LDRs. This can be accomplished through knowledge and/or testing that provides the minimum and maximum representative constituent concentrations as determined by the generator. Concentrations that exceed applicable LDRs will be treated.
- A generating process that is listed must demonstrate compliance with applicable LDRs through knowledge and/or testing providing the representative constituent concentrations as determined by the generator. Constituents of concern associated with the listing as well as any other characteristics that are exhibited by the waste will be evaluated for compliance with LDR. Concentrations that exceed applicable LDRs will be treated.

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 is used to demonstrate LDR compliance Table D.2 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) are identified to meet or exceed the applicable land disposal restrictions at the point of generation.

Off-site waste will be reviewed by qualified personnel for 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 A2.A. 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 or sent off-site. Waste meeting applicable LDRs can be disposed of at an off-site Subtitle D landfill (waste must be treated to remove applicable hazardous characteristic(s) and meet applicable LDRs prior to disposal) or a Subtitle C landfill.

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

[R 299.9627 and 40 CFR §268.3]

A generator or treatment facility may not impermissibly dilute listed wastes and characteristic wastes, if destined for land disposal off site, as a substitute for adequate treatment from the point of generation to the point of land disposal off site. A generator or treatment facility may permissibly dilute if (1) the waste is managed in a Clean Water Act (CWA)/CWA-equivalent surface unit or a Class I Safe Drinking Water Act injection well, (2) the waste has a concentration-based treatment standard or is treated using the DEACT technology-based treatment standard, and (3) the waste is not a D003 reactive waste. If EQD has knowledge of impermissible dilution, the generator will be asked to characterize the waste according to concentrations prior to dilution. EQD will treat the waste for constituents that exceeded LDRs prior to dilution. EQD will document information concerning the impermissible dilution of waste in the generator approval file, including a description of events that occurred and constituents that require treatment.

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

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

[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 on the generator's behalf must certify the information provided is representative, true, and accurate. The analytical data, waste type, process description, chemical and physical characteristics provide EQD 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 to evaluate the waste or if EQD disagrees with the waste characterization, the generator or their representative is contacted and asked to provide additional information and make appropriate revisions to the waste characterization before the approval process will continue. Examples of insufficiencies or clarifications that must be addressed before an approval is issued include, but are not limited to:

- Information required in A2.A.2 is not provided.
- Waste generated from a listed process that is not identified with the listed waste code.
- Analysis indicating a constituent exceed concentration-based requirement that is not identified with applicable waste codes or UHC.
- Conflicting information (e.g., information indicates waste has a pH of <2, but material safety data sheet indicates the waste is neutral)
- Lack of adequate knowledge and/or analysis that supports the generator characterization

If sufficient information is not provided the waste is not approved. Confirmatory analysis can be performed to obtain information necessary. A representative sample will be requested from the generator if the waste stream is suspected to have additional relevant chemical and/or physical properties that have not been adequately identified. Parameters analyzed are based on contaminants suspected to be present based on site history and process information.

The profile, with supporting information including resolutions to insufficiencies, forms the basis of information upon which EQD determines if the waste can receive an approval. The approval may be for storage, transshipment, and/or treatment at EQD. If the information supports the generator characterization and the waste can be safely handled at EQD in accordance with the operating license requirements, it is assigned a unique identification number and management process that identifies how the waste will be handled at EQD once accepted. An approval letter is sent to the generator, directly or via the customer to serve as notification that the waste as represented may be shipped to EQD, and that EQD has the appropriate permit(s) to accept the waste. All approval files are maintained in EQD operating record in an electronic, paper, or other archival form. Approval files with no shipments received upon annual review will not be kept in EQD 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)]

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

- There has been a change in the process generating the waste. When a change in a waste stream's characterization or treatment requirements occur, generators are required to 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 reevaluated at least once a 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. The generator is directed not to provide this certification if changes have occurred to the waste stream or if

they cannot be confident in their representation that the previously provided information is still accurate. Changes which impact the waste characterization result in an amendment of the existing approval or, if the changes are too extensive, a new approval may be issued, or the waste will not be approved. Waste approvals that have not received an updated generator certification within one year of the last review will not be approved for receipt at EQD 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 used by the TSD facility in order to inspect and, if necessary, analyze hazardous waste received at EQD. This is done in order to confirm the waste received is consistent with properties identified in the pre-approval process. Pre-acceptance and screening/fingerprint analysis will be performed on all incoming wastes unless specifically exempted in Section A2.B.1(d).

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 EQD in the following containers:

☒ Drums	☒ Totes	☒ Tanker trucks
☒ Carboys	☒ Wrangler box	☒ Filter bags
☒ Roll-off boxes	☒ 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. Containers received must be in good condition and capable of retaining the waste.*

Each manifested/shipping document 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 the following tasks on waste received from off-site generators:

- Review paperwork
- Visually inspect the waste unless exempted by A2.B.1(d)
- Perform waste screening/fingerprint analysis of waste as required by A2.B.1(b), (c), and (d), unless exempted by Section A2.B.1(d)

Prior to allowing the transporter to relinquish possession of the hazardous waste paperwork is reviewed as described in section A2.B.1(a). Containers are inspected to ensure they are in good condition and the labels are confirmed to match information on the shipping document. EQD will make acceptance determinations while the containers remain in possession of the transporter or containers are relinquished from the transporter, received, and placed in permitted container storage areas while awaiting an acceptance determination. After all paperwork has been reviewed and required sampling and screening is completed waste received is either accepted for treatment, storage or disposal, or identified as discrepant pending a resolution or rejection. Discrepancies will be managed as described in A2.B.2.

It should be noted that EQD will collect additional samples and perform additional analysis when knowledge of the waste identifies potential safety and/or compliance issues. Examples of knowledge that could trigger additional samples include variability in the color from previous receipts or changes in the odor of the waste.

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 EQD 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). It is the responsibility of the generator and the transporter to utilize a uniform hazardous waste manifest for the shipment of hazardous wastes. In the event a hazardous waste arrives without a uniform hazardous waste manifest, a notification of unmanifested waste will be submitted in accordance with R 299.9610(2) of the administrative rules promulgated under Part 111 of the Natural Resources and Environmental Protection Act ("Part 111"). 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. The information obtained for the LDR notification is also used to establish the handling method assigned to the waste. The shipping document will also be compared to the number of containers, the volume, and/or the weight of the waste in the shipment.

Paperwork discrepancies will be resolved as described in A2.B2.

A2.B.1(b) Sampling Methods
[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. 40 CFR 260.10 defines representative sample as, *"a sample of a universe or whole (e.g., waste pile, lagoon, ground water) which can be expected to exhibit the average properties of the universe or whole."* The purpose of the sampling is to determine if the material in the waste containers conforms to the pre-approval information and any additional information that may have been obtained by EQD. All waste is sampled unless specifically exempted in A2.B.1(d). 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. The sampling equipment and procedures described represent recommended sampling protocol for general types of waste material. Appendix D provides procedures on the use of sampling equipment. 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. When deviations from standard methods are implemented, the methods used need to be specified in the WAP. Methods not specified will require an update of the WAP. Appendix D provides procedures utilized for sampling.

The rationale for what sampling equipment will be used is determined by considering several 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 B.1 outlines sampling equipment that will be utilized based on the physical state of the waste and the size of the container.

The feasibility of sampling is determined by the sampler using reasonable judgment considering numerous factors including safety, visual appearance, extent of variability, level of observed contamination on the material, etc. If upon visual inspection, the waste is 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. Alternatively, the sampler can randomly select samples or select samples from portions of the waste expected to have the highest level of contamination. Samples collected at random are equally capable of demonstrating consistency with pre-approval information.

All sampling is done via grab sample. The horizontal location in which the waste is sampled is also at the discretion of the sampler. The vertical depth of the sample is limited by the sampling equipment utilized and the physical properties of the waste. Grab samples will usually be collected from the top portion of the material as far down into the waste as the sampling apparatus allows. Surficial grab samples can quickly demonstrate whether material sampled does or does not match the waste profile. When possible, sampling devices that allow core samples to be collected will be used to collect as far into the sample containers as is practicable. This is influenced by factors such as the physical state of the waste, container sample size, and accessibility 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 roll-off box of soil may not be able to be sampled using an auger, etc.to sample the waste as it would require unsafe entry into the container to properly core into the waste. However, sampling may occur with a scoop/cup. A coliwassa is the preferred method for sampling liquids. However, if the waste is solid with a puddle of free-standing liquids a cup is utilized.

Sampling equipment is constructed of non-reactive materials. Care is taken in the selection of the sampling device to prevent cross-contamination of the sample and to ensure the 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 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;
- if 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. Note that site personnel performing sampling are trained per Appendix H of the permit application.

Screening tests do not necessitate any sample preservation because screening is performed following the sample collection. Resamples are collected if analysis is not performed within parameter hold times.

Upon completion of the paperwork review, non-bulk containers received are accounted for and placed in containment areas in drum dock receiving or chem-pre 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 visual inspection comparison*** when the manifested count would require only one container. Containers which contain waste materials that are visually similar will have one grab sample (collected in sealable containers) collected from the containers that are visually inspected. Samples will be composited by waste stream to form a single sample for analysis. Alternatively, each sample collected can be evaluated individually. Samples are composited in the laboratory under fume hoods. Equal volumes of each sample collected are added to an HDPE compositing container with a lid. Samples will be mixed to ensure homogeneity of samples and then immediately sealed. 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 have a minimum of one grab sample collected from the container(s) that are visually inspected. Each sample will be analyzed separately. Sampler discretion will be utilized to determine if additional samples are collected.

Bulk containers (i.e. roll- offs, end dumps, etc.) are sampled upon arrival at EQD while paperwork is being reviewed. Except for material exempted in section A2.B.1(d), a grab sample will be taken from 100% of the manifested bulk containers. 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. The horizontal location in which the waste is sampled is at the discretion of the sampler. Core

samples are unlikely to be collected because of safety concerns associated with the container types and sampling equipment.

The following information is included on the sample label:

Type of Sample	Label Requirements:
Bulk Loads	Receipt #: Generator Name: Manifest: Approval: Quantity:
Container Loads	Receipt #: Generator Name: Manifest: Approval: Quantity:

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)]

The screening parameter objective is to compare properties identified during the pre-approval process to the waste received to verify the material received was accurately described. Therefore, observations will identify whether the waste is consistent with pre-approval information or if it differs.

Table B.2 identifies the waste screen analysis procedures, including screening parameters, rationale for the parameter, analytical method, the frequency of waste screening, and discrepancy triggers. A tiered screening approach is utilized for incoming shipments. Screening procedures developed by EQD are provided in the screening levels as follows:

- **Level 1**
  Evaluates the physical characteristics of the waste. Comparison is made to information obtained during pre-approval. The screening parameters determine the general physical characteristics of the waste and compare it to the information obtained during the pre-approval process. Level 1 will be performed on all incoming waste streams.

- **Level 2**
  Level 2 analysis will be completed to supplement Level 1 analysis unless samples cannot be collected as described in A2.B.1(d). Level 2 analysis will be performed for initial shipments of waste sampled to obtain reasonable assurance that the pre-approval information was accurate, by analyzing additional parameters on the first receipt as identified in Table B.2. Parameters analyzed are qualitative and are intended to verify properties identified in the pre-approval information. Subsequent shipments that remain consistent with the pre-approval information for screening parameters performed on the first receipt will not be required.

- **Level 3**
  Level 3 analysis is performed when a waste discrepancy cannot be resolved without additional analysis. Additional information on when the analysis would be performed is provided in A2.B.2.

Visual observations and screening results of samples collected as specified in A2.B.1(b) will be recorded and compared to the profiled information by trained receiving personnel. Expected screening results based on pre-approval information are assigned to a waste. This information is utilized to identify consistency with the approved waste. If the results of the pre-acceptance screening agree with the pre-approval information, the container is accepted. If screening results vary from pre-approval information the discrepancy procedures identified in A2.B.2 will be initiated.

TABLE B.1 EQUIPMENT FOR 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

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		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
	Coliwasa/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

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)*

(One page 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(d)*

Parameter	Frequency*	Rationale	Analytical Method	Discrepancy
Level 1 Necessary for all incoming waste streams except as exempted by A2.B.1(d)				
Color	Each incoming waste stream	Determine the general physical characteristics of the waste.	Visual Assessment	Color is not as profiled
Consistency	Each incoming waste stream	Determine the general physical characteristics of the waste.	Visual Assessment: Examples of consistency descriptors are as follows: dust, solid, semi-solid, sludge, liquid and/or debris. Identifies presence of oil-water phases or multiphases	Consistency is not as profiled or differs from the ratios profiled (example profiled at 90% debris and 10% soil and arrives 60% soil and 40% debris)
Odor (Incidental)	Each incoming waste stream	Determine the general physical characteristics of the waste.	Potentially problematic odors detected	Odor is strong and has potential to be detected offsite
Level 2 Necessary for waste streams requiring analysis to verify the consistency with preapproval values except as exempted by A2.B.1(d).				
pH screen	Each incoming waste stream except for solids and nonaqueous wastes	Identify the general corrosive nature of the waste.	Internal procedure. See Appendix D	Varies from preapproval range such that 1. It falls below the low corrosivity limit (pH <2) 2. It falls above the high corrosivity limit (pH>12.5)
Free Liquids	First receipt of waste stream sampled and when deemed necessary by visual consistency.	Verify presence of free liquids	SW846, 9095 Paint Filter Liquids Test	Presence of free liquid
Ignitability Screen	Each incoming waste stream sampled	Identifies potential for ignitable waste	Internal procedure. See Appendix D	Ignition of material not expected to be combustible (examples of combustible materials include paper, cardboard, wood, plastic, rubber)
Level 3 triggered by Level 1or Level 2 discrepancy and inability for discrepancy to be resolved				
pH Liquid	•Initial Approval (when knowledge must be supported) • Change in the process generating the waste which will alter the characterization or treatability	Identify the general corrosive nature of the waste.	SW846 9040- pH Electrometric Measurement	Varies from preapproval range such that 1. It falls below the low corrosivity limit (pH <2) 2. It falls above the high corrosivity limit (pH>12.5)
Ignitability	Waste streams which fail match test.	Quantify flashpoint of waste that failed the match test to confirm D001 applicability when flashpoints are <140F.	SW 846 1010A or SW 846 1020B	Unexpected flashpoint <140F
Cyanide	Waste streams requiring confirmatory analysis*	When information provided is insufficient to determine characterization and LDR compliance. See A2.B.2	SW846 9010 and 9014 Total and Amenable Cyanide: Distillation; Cyanide in Waters and Extracts Using Trimetric and Manual Spectrophotometric Procedures.	Cyanide detection above applicable LDRs
PCB	Waste streams requiring confirmatory analysis*	When information provided is insufficient to determine characterization and LDR compliance. See A2.B.2	SW846 8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography Prep: SW846 3550- Ultrasonic Extraction Prep: SW846 3510- Separatory Funnel Liquid-Liquid Extraction Prep: SW846 3580- Waste Dilution Cleanup:SW846 3665-Sulfuric Acid/ Permanganate Cleanup Cleanup:SW846 3620 - Florisil Cleanup	PCB above applicable LDRs or waste is >50ppm and not identified as TSCA regulated waste.
Metals	Waste streams requiring confirmatory analysis*	When information provided is insufficient to determine characterization and LDR compliance. See A2.B.2	SW846 6010 - Inductively Coupled Plasma-Atomic Emission Spectrometry Prep: SW846 3051A Microwave Assisted Acid digestion of Sediments, Sludges, Soils, and Oils Prep: SW846 3015A- Microwave Assisted Acid Digestion of Aqueous Samples and Extracts	Metals detection above applicable LDRs
Mercury	Waste streams requiring confirmatory analysis*	When information provided is insufficient to determine characterization and LDR compliance. See A2.B.2	SW846 7473- Mercury in Solids and Solutions by Thermal Decomposition, Amalgamation, and Atomic Absorption Spectrophotometry	Mercury detection above applicable LDRs
Semi-volatiles	Waste streams requiring confirmatory analysis*	When information provided is insufficient to determine characterization and LDR compliance. See A2.B.2	SW846 8270 Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) Prep: SW846 3550- Ultrasonic Extraction Prep: SW846 3510C- Separatory Funnel Liquid-Liquid Extraction Prep: SW846 3580- Waste Dilution	Semi-volatiles detection above applicable LDRs
Volatiles	Waste streams requiring confirmatory analysis*	When information provided is insufficient to determine characterization and LDR compliance. See A2.B.2	SW846 8260- Volatile Organic Compounds by Gas Chromatography /Mass Spectrometry SW846 8015- Nonhalogenated Organics by Gas Chromatography Prep: SW846 5030- Purge and Trap for Aqueous Samples Prep: SW846 5035- Closed system Purge and Trap and Extraction for Volatil Organics in Soil and Waste Samples	Volatiles detection above applicable LDRs
Pesticides	Waste streams requiring confirmatory analysis*	When information provided is insufficient to determine characterization and LDR compliance. See A2.B.2	SW846 8081- Organochlorine Pesticides by Gas Chromatography Prep: SW846 3550- Ultrasonic Extraction Prep: SW846 3510C- Separatory Funnel Liquid-Liquid Extraction Prep: SW846 3580- Waste Dilution	Pesticides detection above applicable LDRs
Herbicides	Waste streams requiring confirmatory analysis*	When information provided is insufficient to determine characterization and LDR compliance. See A2.B.2	SW846 8151- Chlorinated Herbicides by GC Using Methylation or Pentafluorobenzylation Derivatization SW846 8270 Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) Prep: SW846 3550- Ultrasonic Extraction Prep: SW846 3510C- Separatory Funnel Liquid-Liquid Extraction Prep: SW846 3580- Waste Dilution	Herbicides detection above applicable LDRs
TCLP	Waste streams requiring confirmatory analysis*	When information provided is insufficient to determine characterization and LDR compliance. See A2.B.2	SW846 1311- Toxicity Characteristic Leaching Procedure To be followed by Analyte specific aqueous preparatory method and analytical method	TCLP detection above applicable LDRs or characteristic levels

*Confirmatory analysis is performed to verify information provided by the generator or their representative if the generator cannot support their assessment of the waste through knowledge or analysis, therefore frequency varies.

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)]

When evaluating the feasibility of representative sampling and analysis the following must be considered:

- Incompatibility during sampling may cause an adverse reaction. The use of mechanical force (e.g., potential sparking or heat generating tools, hammering, or scraping) has the potential to apply friction or force on the waste also initiating an adverse reaction. In both sampling techniques the sampler is in close proximity and places the sampler at unnecessary risk of harm.
- The level of contamination may be highly variable and indistinguishable making it impossible to determine if a representative or even conservative sample was collected. It may not physically be possible to collect a sample from every visually dissimilar material.
- Requiring employees to sift, crawl, or enter a container to sample materials is considered an unreasonable means of sampling as it exposes employees to significant and unnecessary risk of harm from chemical exposure and uneven walking and working surfaces. Falls from heights and on the same level (a working surface) are among the leading causes of serious work-related injuries and deaths. Occupational skin diseases are the second most common type of occupational disease. Studies show that absorption of chemicals through the skin can occur without being noticed by the worker, and in some cases, may represent the most significant exposure pathway. Employees are provided the personal protective equipment necessary to perform their tasks however there is a high to moderate risk of skin exposure during sampling (i.e., exposed skin while reaching) and after sampling (i.e., during the removal of Personal Protective Equipment "PPE"). The use of PPE is considered the last line of defense against worker injury and illness and is acceptable only when controls higher in the hierarchy such as using engineering and administrative controls do not eliminate the hazard. PPE is the last level of control.

Waste received from off-site facilities will be visually inspected and sampled. The only exceptions are 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. All waste received from offsite is inspected, sampled, and analyzed as specified in A2.B.1(b) and (c) unless one of the following exemptions is applicable and documented in the receiving file.

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.
- Empty containers defined as no more than 1 inch of residue remains; or no more than 3% the weight of total capacity of the container remains (when container size is 110 gallons or less); or no more than 0.3% by weight of total capacity of the container remains (when container size is 110 gallons or more)
  - Exception: Sampling is not required. Visual inspection required
  - Reason for exception: Residue cannot reasonably be sampled due to the small quantities. Information on previous contents in the container will be documented on the approval information.
- Debris (e.g., demolition debris, equipment, machinery, pumps, piping, glass, wood, concrete, rebar, metal, syringes, etc.)

- Exception: Debris is sampled as much as possible. Sampling is not required only if it is not reasonably possible to collect a sample. Visual inspection is still required.
- Reason for exception: Not all wastes are amendable to sampling because of the physical nature of the waste. Knowledge of contaminants present will be documented in the approval file. Containers may contain a wide variety of materials and contamination making the ability to obtain representative samples technically impracticable. A visual inspection provides sufficient information to confirm the identity of the waste on the accompanying shipping paper and pre-approval information. Therefore, no sampling or analysis are necessary.

- Articles/chemical-containing devices, such as transformers, ballasts, capacitors, cathode ray tubes (CRTs), fluorescent lights, batteries.
  - Exception: Sampling is not required. Visual inspection required
  - Reason for exception: Articles and devices are objects that are not amenable to sampling or that can be sampled but in doing so can change the waste management requirements of the waste. A visual inspection provides sufficient information to confirm the identity of the waste on the accompanying shipping paper and pre-approval information. Therefore, no sampling or analysis are necessary.
- 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: Representative samples cannot reasonably be collected. A visual inspection provides sufficient information to confirm the identity of the waste on the accompanying shipping paper and pre-approval information.
- Spent activated carbon, ion-exchange resins and other filtration type media.
  - Exception: Sampling is not required when it is not reasonably possible to collect a sample. For example, a 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: Representative samples cannot reasonably be collected. A visual inspection provides sufficient information to confirm the identity of the waste on the accompanying shipping paper and pre-approval information.
- 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 off-site odor issues.
  - Exception: Visual inspection and sampling are not required.
  - Reason for exception: Avoid an off-site 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.
- Small containers of waste inside a larger container of waste. Note that there are times when there is not enough waste in a small container to collect a sample and there are times when the collection of

a sample would be a large portion (or all) of the waste quantity. 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.
- Other waste streams approved by the Director on a case-by-case basis.

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 to establish procedures utilized to inspect, and if necessary, analyze each hazardous waste movement received at EQD. If these evaluations must be completed at a location other than EQD, approval must be obtained from the Director. The request for approval must include the following:

- a description of why the exception is requested.
- a detailed description of what screening procedures as well as frequency of screening will be performed off-site.
- who will perform the off-site activities; training that will occur to ensure conformance with the WAP.
- certification from the generator that waste conforms to the approval information.
- certification from the transporter the waste was not tampered with during transportation.
- documentation that must be transmitted to the applicable receiving facility (EQD) prior to the waste being treated or disposed (i.e., with the waste shipment or before).
- records that will be maintained on-site.

EQD will complete a paperwork review as described in A2.B.1(a) (generator must include the approval number and a certification stating the waste is fully and accurately described on the shipping document). EQD may request the Director approve an exception to sampling and analysis of the waste and the waste will not be altered. In these instances, the frequency in which off-site screening is performed is reduced.

A2.B.2 PRE-ACCEPTANCE DISCREPANCY

Consistent with 40 CFR 264.72, a discrepancy is defined as significant differences in the quantity or type of hazardous waste designated on the manifest or shipping paper and what EQD receives. Discrepancies will be determined by identifying inconsistencies between the waste received and the pre-approval information (or inaccurate or incomplete shipping documents). Discrepancy(ies) will be recorded on the receiving document when the receipt is created. EQD will make every effort to resolve the discrepancy and accept the waste. A representative of the generator or customer will be notified to resolve the discrepancy if EQD receives a shipment of waste that is inconsistent with the pre-approval information and/or if the waste shipment has incorrect, incomplete, or missing documentation including but not limited to the LDR notification or shipping paper. Discrepancies in paperwork or sample analysis may result in changes that may require additional handling procedures or modifications to the paperwork or waste characterization. Confirmatory analysis utilizing Level 3 screening can be performed on the waste to verify information provided by the generator or their representative if the generator cannot support their assessment of the waste through knowledge or analysis. Information obtained from the generator, or their representative will be utilized to evaluate the waste and determine the Level 3 parameters that will be analyzed. Samples tested will either be samples obtained for pre-acceptance or additional samples will be collected as described by A2.B.1(b). Alternatively, the waste will be rejected.

During the discrepancy process the waste can remain in possession of the transporter, or containers are relinquished by the transporter, received, and placed in the appropriate permitted container storage areas, or bulk storage area while awaiting a resolution. If information indicates a change in the characterization and/or the LDR specifications of the waste, it will not be treated or disposed of until the generator amends the characterization. If a resolution cannot be obtained; the assessment of the waste determines it cannot be treated at EQD; or if EQD disagrees with the generator characterization of the waste, the waste will be rejected back to the generator, or to an alternate facility and the hazardous waste manifest will document the rejection in accordance with 40 CFR 264.72. The transporter can retain custody while arrangements are made to reject the material, or EQD will provide for secure, temporary custody of the waste. Waste that remains in EQD custody will be placed in the appropriate permitted storage area. The physical, ignitable, and reactive properties of the waste are evaluated to determine whether the material can be safely stored in the container storage areas and/or placed in transportation. EQD personnel will evaluate and determine if re-packaging may be required to meet all pre-transportation requirements and to place the container back in transportation. Containers will be repackaged either by the transporter or EQD. If repackaged by EQD this will occur prior to rejection. Note that container specifications are required to be documented on the manifest prior to shipment.

Resolutions will be noted on the receiving documents or by an alteration of the waste approval information resulting in correction in the receipt documentation. 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, EQD personnel will submit to the Director, 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 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 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 is treated or transshipped.

A2.C.1(a) Wastes Container Compatibility

All waste received by EQD is 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. For example, if a container is leaking or damaged or there is a concern about it leaking during transport, it will be repackaged. Also, we would repackage if the discrepancy was discovered to be corrosive and the material is liquid in an open top container. We would either repackage or overpack. We follow DOT requirements for the rejection packaging based on the discrepancy discovered.

Stored containerized waste at EQD is segregated according to Table C.1 below. 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. Ignitable and/or reactive 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 (except sulfide and cyanide) wastes are not approved for treatment 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	**9**	C	C	C	C	C	C	C	C	C	C	C

Notes:

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

* = Other than Poisonous Liquids PG I, Zone A (as specified in 173.116(a) or 173.133(a) of 49 CFR) will not receive wastes with Class 1, or Division 2.3, 4.2, 6.1 PG I, Zone A Hazardous Material classifications.

C = Compatible

X = Non-Compatible

A2.C.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

During the pre-approval process treatment requirements are assessed based the concentrations of the constituents of concern (constituents that exceed LDR treatment standards) and applicable waste codes (i.e. D008 is lead) 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, treatment requirements, and the results of pre-acceptance screening.

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

Table C.2 details compatibility screening parameters, test methods, the frequency of waste screening, and when something is identified as an incompatibility. The screening described is performed prior to transferring waste into treatment or storage tanks.

TABLE C.2 COMPATIBILITY SCREENING

*Alternative methods may be required on a case-by-case basis in order to properly analyze the waste. Waste streams referenced in this table refer to incoming waste with constituents requiring treatment. *Sampling frequencies will be completed as specified in A2.B.1(b) unless exempted by A2.B.1(d).*

(Two pages following this title page contain Table C.2)

Table C.2 Compatibility Screening

Alternative methods may be required on a case by case basis in order to properly analyze the waste
Waste streams referenced in this table refer to incoming waste with constituents requiring treatment
**Sampling frequencies will be completed as specified in A2.B.1(b) unless exempted by A2.B.1(d).*

Parameter	Frequency*	Rationale	Method	Incompatibility Determination
Level 1: Necessary for all incoming waste streams				
Paperwork Review Compatibility	Each incoming waste stream sampled for analysis	Review of expected incompatibles identified based on chemical and physical properties of the waste.	Chemical and physical properties of the waste obtained during the pre approval process, combined with knowledge of the treatment process are utilized to make compatibility determinations and evaluate the potential for an adverse reaction.	The properties of the waste identify handling methods that have the potential to cause an adverse reaction based on the chemical and physical properties of the waste. See Table C.3 Compatibility Grouping Evaluation
Paperwork Review: Reactivity-Stabilization or solidification agent	Each incoming waste stream sampled for analysis	Verify potential for adverse reaction. Reactions are assessed to demonstrate; whether additional handling controls are required.	Chemical and physical properties of the waste obtained during the pre approval process, combined with knowledge of the treatment process and known behavior are utilized to make compatibility determinations and evaluate the potential for an adverse reaction.	Chemical and physical properties of similar waste properties has demonstrated an adverse reaction. See Table C.3 Compatibility Grouping Evaluation
Paperwork Review: Reactivity-Bleach	Each incoming waste stream sampled for analysis	Verify potential for adverse reaction. Reactions are assessed to demonstrate; whether additional handling controls are required.	Chemical and physical properties of the waste obtained during the pre approval process, combined with knowledge of the treatment process and known behavior are utilized to make compatibility determinations and evaluate the potential for an adverse reaction.	Chemical and physical properties of similar waste properties has demonstrated an adverse reaction. See Table C.3 Compatibility Grouping Evaluation
Paperwork Review: Reactivity-Caustic	Each incoming waste stream sampled for analysis	Verify potential for adverse reaction. Reactions are assessed to demonstrate; whether additional handling controls are required.	Chemical and physical properties of the waste obtained during the pre approval process, combined with knowledge of the treatment process and known behavior are utilized to make compatibility determinations and evaluate the potential for an adverse reaction.	Chemical and physical properties of similar waste properties has demonstrated an adverse reaction. See Table C.3 Compatibility Grouping Evaluation
Paperwork Review: Reactivity-Acid	Each incoming waste stream sampled for analysis	Verify potential for adverse reaction. Reactions are assessed to demonstrate; whether additional handling controls are required.	Chemical and physical properties of the waste obtained during the pre approval process, combined with knowledge of the treatment process and known behavior are utilized to make compatibility determinations and evaluate the potential for an adverse reaction.	Chemical and physical properties of similar waste properties has demonstrated an adverse reaction. See Table C.3 Compatibility Grouping Evaluation
Paperwork Review: Oxidizer Screen	Each incoming waste stream sampled for analysis	Verify potential for adverse reaction. Reactions are assessed to demonstrate; whether additional handling controls are required.	Chemical and physical properties of the waste obtained during the pre approval process, combined with knowledge of the treatment process and known behavior are utilized to make compatibility determinations and evaluate the potential for an adverse reaction.	Required information identified in A2.A.2 identifies the presence of oxidizers
Paperwork Review: Cyanide Screening	Each incoming waste stream sampled for analysis	Verify potential for adverse reaction. Reactions are assessed to demonstrate; whether additional handling controls are required.	Chemical and physical properties of the waste obtained during the pre approval process, combined with knowledge of the treatment process and known behavior are utilized to make compatibility determinations and evaluate the potential for an adverse reaction.	Required information identified in A2.A.2 identifies the presence of cyanide
Paperwork Review: H2S Screening	Each incoming waste stream sampled for analysis	Verify potential for adverse reaction. Reactions are assessed to demonstrate; whether additional handling controls are required.	Chemical and physical properties of the waste obtained during the pre approval process, combined with knowledge of the treatment process and known behavior are utilized to make compatibility determinations and evaluate the potential for an adverse reaction.	Required information identified in A2.A.2 identifies the presence of sulfide
Paperwork Review: Mock Tank Compatibility	Each incoming waste stream sampled for analysis	Verify potential for adverse reaction when waste and reagents are aggregated	Chemical and physical properties of the waste obtained during the pre approval process, combined with knowledge of the treatment process and known behavior are utilized to make compatibility determinations and evaluate the potential for an adverse reaction.	Chemical and physical properties of similar waste has demonstrated an adverse reaction with waste intended to be added. See Table C.3 Compatibility Grouping Evaluation
Level 2: Necessary to confirm management of waste activity will not create an adverse reaction when combined with these properties except as exempted by A2.B.1(d).				
Reactivity- Stabilization or solidification agent	Each incoming waste stream sampled for analysis unless excluded by A2.B.1(d).	Qualitative test to determine compatibility with stabilization reagents.	Internal procedure. See Appendix D	•Excessive Gas Evolution - Materials that upon mixing, appear to liberate significant amounts of vapors, fumes, or mists. This is determined through visual observation. If a reaction is observed a match test is completed to determine if the gas generated is ignitable. Ignitable gas is demonstrated through popping noises as the match approaches, flame in the mock tank or a flare up of the match. •Excessive Heat Generation - Materials that, upon mixing, generate excessive amounts of heat. This is determined by the touch of the mock tank and visually if steam generation occurs. •Adverse Consistency- Materials that, upon mixing, result in the formation of a large amount of sludge, or solid or gel that causes a removal or subsequent handling problem. This is determined through visual observation of the consistency.

Table C.2 Compatibility Screening

Alternative methods may be required on a case by case basis in order to properly analyze the waste
Waste streams referenced in this table refer to incoming waste with constituents requiring treatment
**Sampling frequencies will be completed as specified in A2.B.1(b) unless exempted by A2.B.1(d).*

Parameter	Frequency*	Rationale	Method	Incompatibility Determination
Reactivity-Bleach	Each incoming waste stream sampled for analysis unless excluded by A2.B.1(d).	Qualitative test to determine compatibility with oxidizing reagents.	Internal procedure. See Appendix D	•Excessive Gas Evolution - Materials that upon mixing, appear to liberate significant amounts of vapors, fumes, or mists. This is determined through visual observation. If a reaction is observed a match test is completed to determine if the gas generated is ignitable. Ignitable gas is demonstrated through popping noises as the match approaches, flame in the mock tank or a flare up of the match. •Excessive Heat Generation - Materials that, upon mixing, generate excessive amounts of heat. This is determined by the touch of the mock tank and visually if steam generation occurs. •Adverse Consistency- Materials that, upon mixing, result in the formation of a large amount of sludge, or solid or gel that causes a removal or subsequent handling problem. This is determined through visual observation of the consistency.
Reactivity-Caustic	Each incoming waste stream sampled for analysis that will be exposed to caustic conditions	Qualitative test to determine compatibility with caustic materials	Internal procedure. See Appendix D	•Excessive Gas Evolution - Materials that upon mixing, appear to liberate significant amounts of vapors, fumes, or mists. This is determined through visual observation. If a reaction is observed a match test is completed to determine if the gas generated is ignitable. Ignitable gas is demonstrated through popping noises as the match approaches, flame in the mock tank or a flare up of the match. •Excessive Heat Generation - Materials that, upon mixing, generate excessive amounts of heat. This is determined by the touch of the mock tank and visually if steam generation occurs. •Adverse Consistency- Materials that, upon mixing, result in the formation of a large amount of sludge, or solid or gel that causes a removal or subsequent handling problem. This is determined through visual observation of the consistency.
Reactivity-Acid	Each sampled incoming waste stream that will be exposed to acidic conditions	Qualitative test to determine compatibility with acidic materials	Internal procedure. See Appendix D	•Excessive Gas Evolution - Materials that upon mixing, appear to liberate significant amounts of vapors, fumes, or mists. This is determined through visual observation. If a reaction is observed a match test is completed to determine if the gas generated is ignitable. Ignitable gas is demonstrated through popping noises as the match approaches, flame in the mock tank or a flare up of the match. •Excessive Heat Generation - Materials that, upon mixing, generate excessive amounts of heat. This is determined by the touch of the mock tank and visually if steam generation occurs. •Adverse Consistency- Materials that, upon mixing, result in the formation of a large amount of sludge, or solid or gel that causes a removal or subsequent handling problem. This is determined through visual observation of the consistency.
Oxidizer Screen	First receipt of waste stream not identified as an oxidizer	Qualitative test used to identify oxidizing properties that require special handling.	ASTM D4981-08 Standard Test Method for Screening of Oxidizers in Waste	Positive test when waste not identified as containing an oxidizer
Cyanide Screening	First receipt of waste and each waste stream that could be exposed to acidic conditions.	Qualitative test to monitor the potential presence of cyanide	Internal procedure. See Appendix D	Slight purple coloration when not expected to contain cyanides or known coloring interferences such as nitrates or high organics
H2S Screening	First receipt of waste and each waste stream that could be exposed to acidic conditions.	Qualitative test to monitor the potential presence of hydrogen sulfide	Internal procedure. See Appendix D	Positive test strip when waste not expected to contain sulfides
Level 3: Necessary to confirm management of waste activity will not create an adverse reaction when combined with these properties except as exempted by A2.B.1(d).				
Mock Tank Compatibility	Each incoming nitrate waste stream that will be placed into a waste treatment/storage tank except as exempted by A2.B.1(d)	Verify potential for adverse reaction when waste and reagents are aggregated	**See A2.C.2(b) Level 3 Mock Tank Compatibility for detailed description**	•Excessive Gas Evolution - Materials that upon mixing, appear to liberate significant amounts of vapors, fumes, or mists. This is determined through visual observation. If a reaction is observed a match test is completed to determine if the gas generated is ignitable. Ignitable gas is demonstrated through popping noises as the match approaches, flame in the mock tank or a flare up of the match. •Excessive Heat Generation - Materials that, upon mixing, generate excessive amounts of heat. This is determined by the touch of the mock tank and visually if steam generation occurs. •Adverse Consistency- Materials that, upon mixing, result in the formation of a large amount of sludge, or solid or gel that causes a removal or subsequent handling problem. This is determined through visual observation of the consistency.

Level 1 Paperwork Compatibility
Incompatibilities are identified during the waste pre-approval process and assigned handling methods to prevent an adverse reaction. Upon receipt of the waste, the chemical and physical properties of the waste obtained during the pre-approval process, combined with knowledge of the treatment process are utilized to make compatibility determinations and evaluate the potential for an adverse reaction.

Level 1 Compatibility Assessment
Table C.3 identifies compatibility groupings and their potential incompatibilities. Compatibility groupings should be evaluated as follows unless additional testing determines no adverse reaction will occur.

TABLE C.3 COMPATIBILITY GROUPING EVALUATION

Compatibility Grouping	May Cause Adverse Reaction	Notes
Acids	Sulfide; cyanide; oxidizers	Can be neutralized and then handled with incompatibles
Caustic	Strong acids	Monitor direct contact with acids carefully.
Cyanide containing waste	Non-neutralized acids	
Microencapsulation Chemox	None	
Microencapsulation Standard	None	
Neutral Metals	None	
Chemox- Organic	Non-neutralized acids	
Oxidizers • *Hypochlorite* • *Nitrates/Nitrites* • *Peroxides* • *Acidic Nitrate*	Acids; combustible material	*Supervisors may evaluate waste type for chemical oxidization properties.* *Single oxidizer type will most commonly be processed by itself unless Level 3 reactivity screening determines no adverse reaction will occur..*

Level 2 Reactivity Screening
Reactivity screening of samples collected during the pre-screening process exposes waste to reagents that may be utilized during treatment as well as extreme conditions it may be subjected to, to evaluate whether additional handling considerations are needed. Extreme conditions are intended to force reactions rapidly to obtain conservative reactivity information. Reactivity information obtained during the fingerprinting process provides an indication of how the waste may behave during compatibility testing and confirms compatibility determinations made during the waste approval process. The information obtained determines the waste incompatibility with reagents and other waste properties.

Level 2 Compatibility Assessment
Compatibility is determined based on an absence of an adverse reaction. A reaction is considered adverse if it results in unexpected and uncontrollable gas evolution, heat, or consistency in the mock tank as follows:

- Gas Evolution - Materials that upon mixing, appear to liberate flammable or explosive vapors, fumes, or mists. This is determined through visual observation of bubbling or foaming. If a reaction is observed a match test is completed to determine if the gas generated is ignitable. Ignitable gas is demonstrated through popping noises as the match approaches, flame in the mock tank, or a flare up of the match.

- Heat Generation - Materials that, upon mixing, generate heat that cannot be controlled through the addition of water. This is determined by feeling heat generated from the mock tank or by touching the side of the mock tank and visually through observation of boiling or splattering that is not reduced when water is added.
- Consistency- Materials that, upon mixing, result in the formation of a sludge, or solid or gel that causes a removal or subsequent handling problem. This is determined through visual observation of the consistency.

Level 3 Mock Tank Compatibility

Mock tank compatibility testing (also referred to as "bucket testing") is performed at EQD on Nitrate waste streams and evaluates the potential for reactions to occur inside the treatment tank, by combining samples of the waste and reagents that are expected to be in the tank. In the absence of a sample (see A2.B.1(d)), compatibility is determined by performing Level 1 compatibility screening.

Tanks are scheduled based on approval information, waste codes, treatment requirements, special handling comments and compatibility determined during pre-approval. Conservative reactivity information obtained during Level 2 screening is utilized to develop and confirm the sequence in which waste and reagents are added is appropriate before assigning waste to a treatment tank.

Waste samples utilized for mock tank compatibility are samples collected during the waste acceptance process as described in A2.B.1(b). If a waste stream is being stored in one of the approved storage areas, then the sample will be stored in the lab until a tank is available. If the fingerprint sample is no longer available, then a new sample is taken for compatibility testing. Alternatively, samples of the waste tank contents can be collected and utilized for mock tank compatibility. Prior to placement of reagents into the tank, treatment plant personnel confirm that reagent compatibility was completed, and no adverse reaction occurred, allowing them to proceed with the addition of reagents into the tanks.

Waste is assigned to a tank if no adverse reaction is observed. If a batch is to be retreated, the reagents used to retreat will be combined with the mock tank to confirm they are compatible. Alternatively, additional reagent will be combined with an actual sample of the well-mixed tank.

Level 3 Reactivity Assessment

Waste treatment requires the creation of reactions between waste streams and treatment reagents. Reactions are therefore anticipated, but the severity and type of reaction determines if a reaction is an adverse reaction.

Compatibility is determined based on an absence of an adverse reaction. A reaction is considered adverse if it results in excessive gas evolution, flammable vapor and/or excessive heat, or an adverse consistency in the mock tank as follows:

- Excessive Gas Evolution - Materials that upon mixing, appear to liberate significant amounts of vapors, fumes, or mists. This is determined through visual observation. If a reaction is observed a match test is completed to determine if the gas generated is ignitable. Ignitable gas is demonstrated through popping noises as the match approaches, flame in the mock tank or a flare up of the match.
- Excessive Heat Generation - Materials that, upon mixing, generate excessive amounts of heat. This is determined by the touch of the mock tank and visually if steam generation occurs.
- Adverse Consistency- Materials that, upon mixing, result in the formation of a large amount of sludge, or solid or gel that causes a removal or subsequent handling problem. This is determined through visual observation of the consistency.

The treatment process requires reactions to occur. The type of reaction, rate of the reaction and the severity of the reaction are evaluated during the compatibility testing. Observations made during the evaluation

may alter the inclusion or order in which waste and reagents are placed in the tanks. The sampling and analysis of a representative sample does not eliminate the potential for an adverse reaction. 40 CFR 260.10 defines representative sample as, *"a sample of a universe or whole (e.g., waste pile, lagoon, ground water) which can be expected to exhibit the average properties of the universe or whole."* It must be acknowledged if only a small portion of the waste exhibits undesirable properties analysis of a representative sample may not exhibit such properties.

After Compatibility Testing
Observations made during the evaluation may alter the inclusion or order in which waste and reagents are placed in the tanks. If an adverse reaction observed in the mock tank cannot be avoided through an appropriate change to what wastes and reagents are combined and the order they are combined, the waste in question will either be considered for treatment in a tank that does not yield an adverse reaction or rejected back to the generator or alternate facility.

If material shows no signs of being incompatible, waste will be assigned to a tank and tank compatibility is documented on the lab data sheets. Reagent addition and volumes added to treatment tanks are documented in the treatment tank record.

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

All liquid storage tanks at EQD are in secondary containment.

A2.C.2(d) Containers without Secondary Containment System

Containers holding waste without free liquids are exempt from secondary containment requirements. The presence of free liquids can be determined by visual inspection.

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

Hazardous waste spilled in secondary containment would be managed as the incoming waste that it was approved as.

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

Like-wastes (waste streams with similar waste properties) 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 C.3) 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 will not selectively bulk RCRA hazardous waste 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.

Liquid and solid hazardous wastes may be bulked or consolidated into larger or fewer containers in any EQD permitted storage area. Note that no waste will be bulked or consolidated until compatibility is confirmed. When 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 EQD in licensed tanks or container storage areas 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 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. EQD to treats hazardous debris by immobilization. No other hazardous waste treatment is proposed to be conducted at EQD. 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 (only required treatment is solidification to pass the paint filter test)). Treatment of the constituents of concern associated with the waste codes characterized 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 applicable treatment methods (See Table D.1 for recommended treatments). UHCs reasonably anticipated to be present at the point of generation that were not identified by the generator but are independently identified by EQD will be managed as a discrepancy as described in A2.B.2 and will be treated to applicable LDR standards. If a resolution to the discrepancy cannot be obtained the waste will be rejected or not approved.

If 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 sample as specified in A2.B.1.b and LDR determination will be made utilizing the test methods and treatment standards identified in Table D.2.. Table D.1 details the recommended treatment that may occur for the characteristic category.

TABLE D.1 CHARACTERISTIC TREATMENT IDENTIFICATION

CHARACTERISTIC	RECOMMENDED TREATMENT
Oxidizer (D001)	Deactivation 40CFR Part 268 Appendix VI • Chemical Reduction, • Stabilization, and/or • Neutralization
Corrosive	Deactivation 40CFR Part 268 Appendix VI • Neutralization • Chemical Oxidation • Chemical Reduction
Reactive (sulfides and cyanides)	Deactivation 40CFR Part 268 Appendix VI or an equivalent • Chemical Reduction • Chemical Oxidation • Stabilization
Metal bearing waste	• 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 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" will 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 § 264.40 "Treatment Standards for Hazardous Wastes" 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 § 264.40 "Treatment Standards for Hazardous Wastes" 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 will result in disposal at a Subtitle C landfill. 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 and treatment are outlined in Appendix A. Wastes that carry more than one characteristic will be identified with a number for each characteristic and treated for each of the constituents of concern. Wastes will be treated to treatment standards identified in 40 CFR 268.40. A waste is decharacterized when the contaminant is treated to less than the maximum concentration for the toxicity characteristic identified in 40 CFR 261.24. In addition to the waste codes, UHCs reasonably anticipated to be present at the point of generation, as identified in the pre-approval, and pre-acceptance processes, will be treated to universal treatment standards (UTS) found in 40 CFR 268.48. Upon treatment and post-treatment verification (See A2.D.3) demonstrating the waste has met applicable LDRs and has been appropriately treated to remove hazardous characteristics (or has been appropriately decharacterized), the waste will be landfilled offsite.

Tanks will be decontaminated following the storage/treatment of listed wastes before characteristic waste destined for Subtitle D disposal are placed in the tank. 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.

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 and treatment are outlined in Appendix A. Unless delisting (utilizing procedures detailed in 40 CFR 260.22) 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. Waste streams in which generators have obtained and executed the requirements of their delisting permits can be accepted by EQD and transshipped offsite to a Subtitle D landfill. 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) may also be transshipped offsite to a Subtitle D landfill providing that LDR restrictions are met.

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 any one or more 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, compliance with treatment standards for carbon disulfide, cyclohexanone, and/or methanol are not required.

Dioxin waste (F020-F023, F026-F028, K043 and K099) are acceptable for treatment at EQD, so long as the dioxin and furan constituents associated with the waste codes do not exceed the concentration-based standards (provided in 40 CFR 268.40) prior to treatment. Waste accepted for treatment will receive treatment for other constituents subject to LDRs, but EQD does not perform treatment or analysis of dioxins.

Tanks will be decontaminated following the storage/treatment of listed wastes before characteristic waste destined for Subtitle D disposal are placed in the tank. 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.

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 EQD 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 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 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 and sent for transshipment or they are opened, the contents are removed, otherwise referred to as "depacking." The like-kind wastes from the same or different incoming shipments are then repackaged together. The depacking area contains the walk-in laboratory hood pour-off area. Laboratory packs are depacked 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 compliant with DOT container compatibility requirements (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)]

☒ EQD does not generate nor accept Technologically Enhanced Naturally Occurring Radioactive Material (TENORM) mixed waste for treatment or disposal.

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 (D003 sulfides and cyanides only) can 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 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 the applicable toxicity characteristic and for each listed contaminant..

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 the wastes 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 constituents subject to treatment in any given volume of soil which exhibits the toxicity characteristic solely because of the presence of metals. In situations where contaminated soil contains both analyzable and non-analyzable organic constituents, treating the analyzable constituents to meet the soil treatment standards is also reasonably expected to provide adequate treatment of the non-analyzable constituents. In situations where contaminated soil contains both analyzable and non-analyzable organic constituents, treating the analyzable constituents to meet the soil treatment standards is also reasonably expected to provide adequate treatment of the non-analyzable constituents. In situations where contaminated soil contains only non-analyzable constituents, soil will be treated by the method specified for the nonwastewater form of the waste as given in 40 CFR 268.40.

Prior to land disposal off site, hazardous constituents subject to treatment will 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 times the UTS provided in 40 CFR 268.48. Soils that exhibit the characteristic of ignitability, corrosivity, or reactivity will also be treated to eliminate these characteristics.

The alternative soil treatment standards provide different data collection options for remediation projects:

- If the 90% treatment standard is selected and analytical testing is used to confirm compliance, two sets of samples are required—one at the point of generation and one after treatment.

- If the 90% treatment standard is selected and process data are used to show that the process always operates at greater than 90% efficiency, no routine sample analyses would be required. Instead, compliance could be confirmed by monitoring process variables, controls, and operating conditions.
- If the 10-times-UTS option is chosen, only one set of samples is required—after waste treatment

EQD collects a single grab sample from an aggregated waste treatment tank that is well mixed to distribute the constituents subject to treatment (utilizing the same tank sampling procedures identified in A2.D.3) to obtain a representative initial concentration of the waste. Sampling and analysis procedures described in A2.D.3 are utilized to obtain the post-treatment concentrations and demonstrate the waste treatment process reduced concentrations by 90%.

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

Listed wastes and characteristic wastes if destined for land disposal, will not be impermissibly diluted to meet LDRs from the point of generation to the point of land disposal off site. 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 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.

EQD will not impermissibly dilute or partially treat a waste to change its treatability category (i.e., from non-wastewater to wastewater), 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, EQD may combine wastes to perform the acceptable treatment. When listed waste is combined with characteristically hazardous waste the waste will be treated to the treatment standards applicable to the listed waste as well as the standards applicable to the characteristic waste (including the UHCs).

A2.D.3 POST-TREATMENT SAMPLING AND ANALYSIS

Treatment facilities must test their wastes as provided:

(1) For wastes or contaminated soil with treatment standards expressed in the waste extract (TCLP), the owner or operator of the treatment facility must test an extract of the treatment residues, using test method 1311 (the Toxicity Characteristic Leaching Procedure, described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 as incorporated by reference in § 260.11 of this chapter) to assure that the treatment residues extract meet the applicable treatment standards.

(2) For wastes or contaminated soil with treatment standards expressed as concentrations in the waste, the owner or operator of the treatment facility must test the treatment residues (not an extract of such residues) to assure that they meet the applicable treatment standards.

For all non-wastewaters, compliance with concentration level standards is based on grab sampling. For wastes covered by the waste extract standards, the 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, must be used to measure compliance. An exception is made for D004 and D008, for which either of two test methods may be used: Method 1311, or Method 1310B, the Extraction Procedure Toxicity Test. For wastes covered by a technology standard, the wastes may be land disposed after being treated using that specified technology or an equivalent treatment technology approved by the director under the procedures set forth in § 268.42(b). A constituent is non-analyzable when 1) the appropriate §268.40 listing specifies a treatment technology, and 2) there is no concentration-based limit in the §268.48 UTS table.

A single random grab 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. The sample is then analyzed for constituents of concern that were subject to treatment. Table D.3 outlines the test methods that will be utilized to verify LDR compliance.

EQD performs a robust, well designed mixing procedure on all waste batches, as described in detail in C4 Treatment. This robust mixing procedure ensures that waste and treatment reagents are uniformly distributed throughout each batch. Although the individual waste streams in some batches can start out as variable, the ultimate treatment residue is uniform. In the event a third-party laboratory will be utilized to perform testing, 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.

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, or samples collected after additional cure time is allowed, can be collected once the waste has had more time to cure (approximately 1-2 hours). Cure samples are analyzed for constituents of concern that were subject to treatment.

For purposes of sampling, vaults 702, 703, and 704 are hypothetically divided into 36 sections. Vaults 701, 705 and 706 are hypothetically divided into 18 sections. A number is randomly selected through an electronic number generator such as random.org (or an equivalent program) or by selecting a number through a non-electronic system such as pieces of paper numbered 1-36. The number which is drawn informs the sampler of the approximate location and depth at which a sample must be collected based on the corresponding table below. An excavator removes a bucket from the correlating location identified by the table and a trained employee removes a sample from the bucket. Sampling equipment is constructed of non-reactive materials. The excavator bucket will be decontaminated to the same level as the tanks following the treatment of listed waste. The vault sections are shown below:

Vaults 702,703 and 704					
1-5 Ft.					
1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18
6-10 Ft.					
19	20	21	22	23	24
25	26	27	28	29	30
31	32	33	34	35	36

Vaults 701, 705 and 706		
1-5 Ft.		
1	1	1
4	4	4
7	7	7
6-10 Ft.		
10	11	12
13	14	15
16	17	18

In most instances treatment residual sample preservation is not necessary because analysis will be performed following the sample collection. Table A.2 provides preservation methods for samples not analyzed within timeframes specified in the table..

Type of Sample	Label Requirements:
Treatment Tanks	Batch ID #

The sample is then taken to the laboratory for analysis. Table D.2 outlines the test methods that will be utilized to verify LDRs. At least one prime and cure TCLP extraction set up is agitated uninterrupted for 18 ± 2 hours and is used to demonstrate compliance with applicable LDRs. Additional samples may be collected for purposes of metals concentration determinations by being divided into multiple TCLP tests to obtain checks of the effectiveness of the treatment as it relates to the mobility of the contaminants. These checks are not utilized for purposes of demonstrating compliance. They provide an early indication (instead of waiting for the full required extraction time) of whether the additional cure time or retreatment is needed. The interruptions in the check sample process 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. Samples and data are labeled in a manner to identify them as check samples.

Limits of quantitation are set below treatment standards of the specific compound being analyzed to quantify concentrations to demonstrate concentrations are below UTS levels. Treatment residue is held in the waste treatment tanks while testing is occurring. Treatment 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 concentration of the failing constituent(s). 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. Testing records, including failures, will be documented in the treatment operating record.

TABLE D.2 LAND DISPOSAL RESTRICTION VERIFICATION

(Table D.2 Contains 58 pages, numbered 1 – 58)

Table D.2 Land Disposal Restriction Verification

- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
D001 (Oxidizer)	LDR-nonwastewater	Exhibits a characteristic of ignitabililty (including oxidizers)	NA	Deactivate for characteristic of ignitability		NA[a]	NA[a]	NA[a]
D002	LDR-nonwastewater	Exhibits a characteristic of corrosivity	NA	Deactivate for characteristic of corrosivity (NEUTRALIZATION)		NA[a]	NA[a]	NA[a]
D003 (Reactive Sulfides based upon 261.23(a)(5))	LDR-nonwastewater	Reactive sulfides	NA	DEACT	NA[b]	NA[a]	NA[a]	NA[a]
D003 (Water Reactive Subcategory based on 261.23(a)(2), (3), and (4)), nonwastewaters only	LDR-nonwastewater	Exhibits a characteristic of reactivity	NA	Must be deactivated in order to treat or dispose		NA[a]	NA[a]	NA[a]
D003 (Reactive Cyanides Subcategory based on 261.23(a)(5)	LDR-nonwastewater	Cyanides (Total)	57-12-5	Determine if waste or residual meets LDR treatment standard	590 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Amenable)	57-12-5	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D004	LDR-nonwastewater	TCLP Arsenic	7440-38-2	Determine if waste or residual meets LDR treatment standard	5.0 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D005	LDR-nonwastewater	TCLP Barium	7440-39-3	Determine if waste or residual meets LDR treatment standard	21 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D006	LDR-nonwastewater	TCLP Cadmium	7440-43-9	Determine if waste or residual meets LDR treatment standard	0.11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D007	LDR-nonwastewater	TCLP Chromium	7440-47-3	Determine if waste or residual meets LDR treatment standard	0.60 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D008	LDR-nonwastewater	TCLP Lead	9439-92-1	Determine if waste or residual meets LDR treatment standard	0.75 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D009	LDR-nonwastewater	TCLP Mercury	7439-97-6	Determine if waste or residual meets LDR treatment standard	0.025 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 7470, 7473	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D010	LDR-nonwastewater	TCLP Selenium	7782-49-2	Determine if waste or residual meets LDR treatment standard	5.7 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D011	LDR-nonwastewater	TCLP Silver	7440-22-4	Determine if waste or residual meets LDR treatment standard	0.14 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D012	LDR-nonwastewater	Endrin Endrin aldehyde	72-20-8 7421-93-4	Determine if waste or residual meets LDR treatment standard	0.13 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D013	LDR-nonwastewater	Lindane (as alpha-, beta-, delta-, and gamma-BHC)	319-84-6 319-85-7 319-86-8 58-89-9	Determine if waste or residual meets LDR treatment standard	0.066 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D014	LDR-nonwastewater	Methoxychlor	72-43-5	Determine if waste or residual meets LDR treatment standard	0.18 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D015	LDR-nonwastewater	Toxaphene	8001-35-2	Determine if waste or residual meets LDR treatment standard	2.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D016	LDR-nonwastewater	2,4-D (2,4-Dichlorophenoxyacetic acid)	94-75-7	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 8151	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D017	LDR-nonwastewater	2,4,5-TP (Silvex)	93-72-1	Determine if waste or residual meets LDR treatment standard	7.9 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 8151	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D018	LDR-nonwastewater	Benzene	71-43-2	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D019	LDR-nonwastewater	Carbon tetrachloride	56-23-5	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D020	LDR-nonwastewater	Chlordane(alpha and gamma isomers)	57-74-9	Determine if waste or residual meets LDR treatment standard	0.26 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D021	LDR-nonwastewater	Chlorobenzene	108-90-7	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D022	LDR-nonwastewater	Chloroform	67-66-3	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D023	LDR-nonwastewater	o-Cresol	95-48-7	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D024	LDR-nonwastewater	m-Cresol (difficult to distinguish from p-cresol)	108-39-4	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

Table D.2 Land Disposal Restriction Verification

- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
D025	LDR-nonwastewater	p-Cresol	106-44-5	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D026	LDR-nonwastewater	Cresol-mixed isomers (Cresylic acid) (sum of o- m-, and p-cresol concentrations)	1319-77-3	Determine if waste or residual meets LDR treatment standard	11.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D027	LDR-nonwastewater	p-Dichlorobenzene(1,4-Dichlorobenzene)	106-47-7	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D028	LDR-nonwastewater	1,2-Dichloroethane	107-06-2	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D029	LDR-nonwastewater	1,1-Dichloroethylene	75-35-4	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D030	LDR-nonwastewater	2,4-Dinitrotoluene	121-14-2	Determine if waste or residual meets LDR treatment standard	140 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D031	LDR-nonwastewater	Heptachlor Heptachlor Epoxide	76-44-8 1024-57-3	Determine if waste or residual meets LDR treatment standard	0.066 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D032	LDR-nonwastewater	Hexachlorobenzene	118-74-1	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D033	LDR-nonwastewater	Hexachlorobutadiene	87-68-3	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D034	LDR-nonwastewater	Hexachloroethane	67-72-1	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D035	LDR-nonwastewater	Methyl ethyl ketone	78-93-3	Determine if waste or residual meets LDR treatment standard	36 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D036	LDR-nonwastewater	Nitrobenzene	98-95-3	Determine if waste or residual meets LDR treatment standard	14 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D037	LDR-nonwastewater	Pentachlorophenol	87-86-5	Determine if waste or residual meets LDR treatment standard	7.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8151, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D038	LDR-nonwastewater	Pyridine	110-86-1	Determine if waste or residual meets LDR treatment standard	16 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW 846 8015, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D039	LDR-nonwastewater	Tetrachloroethylene	127-18-4	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D040	LDR-nonwastewater	Trichloroethylene	79-01-6	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D041	LDR-nonwastewater	2,4,5-Trichlorophenol	95-95-4	Determine if waste or residual meets LDR treatment standard	7.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D042	LDR-nonwastewater	2,4,6-Trichlorophenol	88-06-2	Determine if waste or residual meets LDR treatment standard	7.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
D043	LDR-nonwastewater	Vinyl chloride	75-01-4	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

Table D.2 Land Disposal Restriction Verification

- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
F001, F002, F003, F004, & F005	LDR-nonwastewater	Aectone	67-64-1	Determine if waste or residual meets LDR treatment standard	160 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzene	71-43-2	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	n-Butyl alcohol	71-36-3	Determine if waste or residual meets LDR treatment standard	2.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Carbon disulfide	75-15-0	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Carbon tetrachloride	56-23-5	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chlorobenzene	108-90-7	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	o-Cresol	95-48-7	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	m-Cresol (difficult to distinguish from p-cresol)	108-39-4	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	p-Cresol (difficult to distinguish from m-cresol)	106-44-5	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cresol-mixed isomers (Cresylic acid)	1319-77-3	Determine if waste or residual meets LDR treatment standard	11.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyclohexanone	108-94-1	No LDR treatment standard applies	No LDR treatment standard applies	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	o-Dichlorobenzene	95-50-1	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Ethyl acetate	141-78-6	Determine if waste or residual meets LDR treatment standard	33 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Ethyl benzene	100-41-4	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Ethyl ether	60-29-7	Determine if waste or residual meets LDR treatment standard	160 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Isobutyl alcohol	78-83-1	Determine if waste or residual meets LDR treatment standard	170 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Methanol	67-56-1	No LDR treatment standard applies	No LDR treatment standard applies	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Methylene chloride	75-9-2	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Methyl ethyl ketone	78-93-3	Determine if waste or residual meets LDR treatment standard	36 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Methyl isobutyl ketone	108-10-1	Determine if waste or residual meets LDR treatment standard	33 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Nitrobenzene	98-95-3	Determine if waste or residual meets LDR treatment standard	14 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Pyridine	110-86-1	Determine if waste or residual meets LDR treatment standard	16 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW 846 8015, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Tetrachloroethylene	127-18-4	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Toluene	108-88-3	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,1,1-Trichloroethane	71-55-6	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,1,2-Trichloroethane	79-00-5	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

Table D.2 Land Disposal Restriction Verification

- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
	LDR-nonwastewater	Trichloroethylene	79-01-6	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Trichlorofluoromethane	75-69-4	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)	1330-20-7	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
F003 and/or F005 (containing only 3 solvents)	LDR-nonwastewater	Carbon disulfide	75-15-0	Determine if waste or residual meets LDR treatment standard	4.8 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyclohexanone	108-94-1	Determine if waste or residual meets LDR treatment standard	0.75 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 8315	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Methanol	67-56-1	Determine if waste or residual meets LDR treatment standard	0.75 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 8015	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
F005 (containing 1 solvent)	LDR-nonwastewater	2-Nitropropane	76-46-9	CMBST	CMBST	NA[a]	NA[a]	NA[a]
F005 (containing 1 solvent)	LDR-nonwastewater	2-Ethoxyethanol	110-80-5	CMBST	CMBST	NA[a]	NA[a]	NA[a]
F006	LDR-nonwastewater	Cadmium	7440-43-9	Determine if waste or residual meets LDR treatment standard	0.11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chromium (Total)	7440-47-3	Determine if waste or residual meets LDR treatment standard	0.60 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Total)	57-12-5	Determine if waste or residual meets LDR treatment standard	590 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Amenable)	57-12-5	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Lead	7439-92-1	Determine if waste or residual meets LDR treatment standard	0.75 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Nickel	7440-02-0	Determine if waste or residual meets LDR treatment standard	11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Silver	7440-22-4	Determine if waste or residual meets LDR treatment standard	0.14 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

Table D.2 Land Disposal Restriction Verification

- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
F007	LDR-nonwastewater	Cadmium	7440-43-9	Determine if waste or residual meets LDR treatment standard	0.11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chromium (Total)	7440-47-3	Determine if waste or residual meets LDR treatment standard	0.60 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Total)	57-12-5	Determine if waste or residual meets LDR treatment standard	590 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Amenable)	57-12-5	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Lead	7439-92-1	Determine if waste or residual meets LDR treatment standard	0.75 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Nickel	7440-02-0	Determine if waste or residual meets LDR treatment standard	11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Silver	7440-22-4	Determine if waste or residual meets LDR treatment standard	0.14 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
F008	LDR-nonwastewater	Cadmium	7440-43-9	Determine if waste or residual meets LDR treatment standard	0.11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chromium (Total)	7440-47-3	Determine if waste or residual meets LDR treatment standard	0.60 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Total)	57-12-5	Determine if waste or residual meets LDR treatment standard	590 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Amenable)	57-12-5	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Lead	7439-92-1	Determine if waste or residual meets LDR treatment standard	0.75 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Nickel	7440-02-0	Determine if waste or residual meets LDR treatment standard	11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Silver	7440-22-4	Determine if waste or residual meets LDR treatment standard	0.14 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
F009	LDR-nonwastewater	Cadmium	7440-43-9	Determine if waste or residual meets LDR treatment standard	0.11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chromium (Total)	7440-47-3	Determine if waste or residual meets LDR treatment standard	0.60 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Total)	57-12-5	Determine if waste or residual meets LDR treatment standard	590 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Amenable)	57-12-5	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Lead	7439-92-1	Determine if waste or residual meets LDR treatment standard	0.75 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Nickel	7440-02-0	Determine if waste or residual meets LDR treatment standard	11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Silver	7440-22-4	Determine if waste or residual meets LDR treatment standard	0.14 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
F010	LDR-nonwastewater	Cyanides (Total)	57-12-5	Determine if waste or residual meets LDR treatment standard	590 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Amenable)	57-12-5	Na[b]	Na[b]	Na[b]	Na[b]	Na[b]
F011	LDR-nonwastewater	Cadmium	7440-43-9	Determine if waste or residual meets LDR treatment standard	0.11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chromium (Total)	7440-47-3	Determine if waste or residual meets LDR treatment standard	0.60 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Total)	57-12-5	Determine if waste or residual meets LDR treatment standard	590 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Amenable)	57-12-5	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

Table D.2 Land Disposal Restriction Verification

- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
	LDR-nonwastewater	Lead	7439-92-1	Determine if waste or residual meets LDR treatment standard	0.75 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Nickel	7440-02-0	Determine if waste or residual meets LDR treatment standard	11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Silver	7440-22-4	Determine if waste or residual meets LDR treatment standard	0.14 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
F012	LDR-nonwastewater	Cadmium	7440-43-9	Determine if waste or residual meets LDR treatment standard	0.11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chromium (Total)	7440-47-3	Determine if waste or residual meets LDR treatment standard	0.60 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Total)	57-12-5	Determine if waste or residual meets LDR treatment standard	590 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Amenable)	57-12-5	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Lead	7439-92-1	Determine if waste or residual meets LDR treatment standard	0.75 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Nickel	7440-02-0	Determine if waste or residual meets LDR treatment standard	11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Silver	7440-22-4	Determine if waste or residual meets LDR treatment standard	0.14 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
F019	LDR-nonwastewater	Chromium (Total)	7440-47-3	Determine if waste or residual meets LDR treatment standard	0.60 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Total)	57-12-5	Determine if waste or residual meets LDR treatment standard	590 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Amenable)	57-12-5	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
F020, F021, F022, F023, & F026	LDR-nonwastewater	HxCDDs (All Hexachlorodibenzo-p-dioxins)	NA	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	Hx CDFs (All Hexachlorodibenzofurans)	NA	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	PeCDDs (All Pentachlorodibenzo-p-dioxins)	NA	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	PeCDFs (All Pentachlorodibenzofurans)	NA	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	Pentachlorophenol	87-86-5	Determine if waste or residual meets LDR treatment standard	7.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8151, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	TCDDs (All Tetrachlorodibenzo-p-dioxins)	41903-57-5	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	TCDFs (All Tetrachlorodibenzofurans)	55722-27-5	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	2,4,5-Trichlorophenol	95-95-4	Determine if waste or residual meets LDR treatment standard	7.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	2,4,6-Trichlorophenol	88-06-2	Determine if waste or residual meets LDR treatment standard	7.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	2,3,4,6-Tetrachlorophenol	58-90-2	Determine if waste or residual meets LDR treatment standard	7.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
F024	All F024 wastes	All F024 wastes	NA	CMBST	CMBST	NA[a]	NA[a]	NA[a]
F024	LDR-nonwastewater	2-Chloro-1,3-butadiene	126-99-8	Determine if waste or residual meets LDR treatment standard	0.28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

Table D.2 Land Disposal Restriction Verification

- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
	LDR-nonwastewater	3-Chloropropylene	107-05-1	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,1-Dichloroethane	75-34-3	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,2-Dichloroethane	107-06-2	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,2-Dichloropropane	78-87-5	Determine if waste or residual meets LDR treatment standard	18 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	cis-1,3-Dichloropropylene	10061-01-5	Determine if waste or residual meets LDR treatment standard	18 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	trans-1,3-Dichloropropylene	10061-02-6	Determine if waste or residual meets LDR treatment standard	18 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	bis(2-Ethylhexyl)phthalate	117-81-7	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Hexachloroethane	67-72-1	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chromium (Total)	7440-47-3	Determine if waste or residual meets LDR treatment standard	0.60 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Nickel	7440-02-0	Determine if waste or residual meets LDR treatment standard	11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
F025 (Light Ends Subcategory)	LDR-nonwastewater	Carbon tetrachloride	56-23-5	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chloroform	67-66-3	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,2-Dichloroethane	107-06-2	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,1-Dichloroethylene	75-35-4	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Methylene chloride	75-9-2	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,1,2-Trichloroethane	79-00-5	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Trichloroethylene	79-01-6	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Vinyl chloride	75-01-4	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
F025 (Spent Filters/Aids and Dessicants Subcategory)	LDR-nonwastewater	Carbon tetrachloride	56-23-5	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chloroform	67-66-3	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Hexachlorobenzene	118-74-1	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Hexachlorobutadiene	87-68-3	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Hexachloroethane	67-72-1	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Methylene chloride	75-9-2	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,1,2-Trichloroethane	79-00-5	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Trichloroethylene	79-01-6	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

Table D.2 Land Disposal Restriction Verification

- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
	LDR-nonwastewater	Vinyl chloride	75-01-4	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
F027	LDR-nonwastewater	HxCDDs (All Hexachlorodibenzo-p-dioxins)	34465-46-8	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	HxCDFs (All Hexachlorodibenzofurans)	55684-94-1	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	PeCDDs (All Pentachlorodibenzo-p-dioxins)	36088-22-9	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	PeCDFs (All Pentachlorodibenzofurans)	30402-15-4	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	Pentachlorophenol	87-86-5	Determine if waste or residual meets LDR treatment standard	7.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8151, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	TCDDs (All Tetrachlorodibenzo-p-dioxins)	41903-57-5	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	TCDFs (All Tetrachlorodibenzofurans)	55722-27-5	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	2,4,5-Trichlorophenol	95-95-4	Determine if waste or residual meets LDR treatment standard	7.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	2,4,6-Trichlorophenol	88-06-2	Determine if waste or residual meets LDR treatment standard	7.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	2,3,4,6-Tetrachlorophenol	58-90-2	Determine if waste or residual meets LDR treatment standard	7.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
F028	LDR-nonwastewater	HxCDDs (All Hexachlorodibenzo-p-dioxins)	34465-46-8	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	Hx CDFs (All Hexachlorodibenzofurans)	55684-94-1	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	PeCDDs (All Pentachlorodibenzo-p-dioxins)	NA	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	PeCDFs (All Pentachlorodibenzofurans)	NA	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	Pentachlorophenol	87-86-5	Determine if waste or residual meets LDR treatment standard	7.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8151, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	TCDDs (All Tetrachlorodibenzo-p-dioxins)	NA	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	TCDFs (All Tetrachlorodibenzofurans)	NA	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	2,4,5-Trichlorophenol	95-95-4	Determine if waste or residual meets LDR treatment standard	7.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	2,4,6-Trichlorophenol	88-06-2	Determine if waste or residual meets LDR treatment standard	7.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	2,3,4,6-Tetrachlorophenol	58-90-2	Determine if waste or residual meets LDR treatment standard	7.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
F032	LDR-nonwastewater	Acenaphthene	83-32-9	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

Table D.2 Land Disposal Restriction Verification

- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
	LDR-nonwastewater	Anthracene	120-12-7	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benz(a)anthracene	56-55-3	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(b)fluoranthene	205-99-3	Determine if waste or residual meets LDR treatment standard	6.8 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(k)fluoranthene	207-08-10	Determine if waste or residual meets LDR treatment standard	6.8 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(a)pyrene	50-32-8	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chrysene	218-01-9	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Dibenz(a,h)anthracene	53-70-3	Determine if waste or residual meets LDR treatment standard	8.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	2,4-Dimethyl phenol	105-67-9	Determine if waste or residual meets LDR treatment standard	14 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Fluorene	86-73-7	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Hexachlorodibenzo-p-dioxins	NA	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg or CMBST	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	Hexachlorodibenzofurans	NA	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg or CMBST	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	Indeno (1,2,3-c,d) pyrene	193-39-5	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Naphthalene	91-20-3	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Pentachlorodibenzo-p-dioxins	NA	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg or CMBST	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	Pentachlorodibenzofurans	NA	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg or CMBST	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	Pentachlorophenol	87-86-5	Determine if waste or residual meets LDR treatment standard	7.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8151, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phenanthrene	85-01-8	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phenol	108-95-2	Determine if waste or residual meets LDR treatment standard	6.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Pyrene	129-00-0	Determine if waste or residual meets LDR treatment standard	8.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Tetrachlorodibenzo-p-dioxins	NA	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg or CMBST	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	Tetrachlorodibenzofurans	NA	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg or CMBST	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	2,3,4,6-Tetrachlorophenol	58-90-2	Determine if waste or residual meets LDR treatment standard	7.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	2,4,6-Trichlorophenol	88-06-2	Determine if waste or residual meets LDR treatment standard	7.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Arsenic	7440-38-2	Determine if waste or residual meets LDR treatment standard	5.0 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

Table D.2 Land Disposal Restriction Verification

- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
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- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
	LDR-nonwastewater	Chromium (Total)	7440-47-3	Determine if waste or residual meets LDR treatment standard	0.60 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
F034	LDR-nonwastewater	Acenaphthene	83-32-9	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Anthracene	120-12-7	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benz(a)anthracene	56-55-3	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(b)fluoranthene	205-99-2	Determine if waste or residual meets LDR treatment standard	6.8 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(k)fluoranthene	207-08-9	Determine if waste or residual meets LDR treatment standard	6.8 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(a)pyrene	50-32-8	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chrysene	218-01-9	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Dibenz(a,h)anthracene	53-70-3	Determine if waste or residual meets LDR treatment standard	8.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Fluorene	86-73-7	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Indeno (1,2,3-c,d) pyrene	193-39-5	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Naphthalene	91-20-3	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phenanthrene	85-01-8	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Pyrene	129-00-0	Determine if waste or residual meets LDR treatment standard	8.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Arsenic	7440-38-2	Determine if waste or residual meets LDR treatment standard	5.0 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chromium (Total)	7440-47-3	Determine if waste or residual meets LDR treatment standard	0.60 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
F035	LDR-nonwastewater	Arsenic	7440-38-2	Determine if waste or residual meets LDR treatment standard	5.0 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chromium (Total)	7440-47-3	Determine if waste or residual meets LDR treatment standard	0.60 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
F037	LDR-nonwastewater	Acenaphthene	83-32-9	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Anthracene	120-12-7	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzene	71-43-2	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benz(a)anthracene	56-55-3	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(a)pyrene	50-32-8	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	bis(2-Ethylhexyl)phthalate	117-81-7	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chrysene	218-01-9	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Di-n-butyl phthalate	84-74-2	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Ethylbenzene	100-41-4	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

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- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
	LDR-nonwastewater	Fluorene	86-73-7	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Naphthalene	91-20-3	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phenanthrene	85-01-8	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phenol	108-95-2	Determine if waste or residual meets LDR treatment standard	6.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Pyrene	129-00-0	Determine if waste or residual meets LDR treatment standard	8.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Toluene	108-88-3	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)	1330-20-7	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chromium (Total)	7440-47-3	Determine if waste or residual meets LDR treatment standard	0.60 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Total)	57-12-5	Determine if waste or residual meets LDR treatment standard	590 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Lead	7439-92-1	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Nickel	7440-02-0	Determine if waste or residual meets LDR treatment standard	11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
F038	LDR-nonwastewater	Benzene	71-43-2	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(a)pyrene	50-32-8	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	bis(2-Ethylhexyl)phthalate	117-81-7	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chrysene	218-01-9	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Di-n-butyl phthalate	84-74-2	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Ethylbenzene	100-41-4	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Fluorene	86-73-7	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Naphthalene	91-20-3	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phenanthrene	85-01-8	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phenol	108-95-2	Determine if waste or residual meets LDR treatment standard	6.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Pyrene	129-00-0	Determine if waste or residual meets LDR treatment standard	8.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Toluene	108-88-3	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)	1330-20-7	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chromium (Total)	7440-47-3	Determine if waste or residual meets LDR treatment standard	0.60 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Total)	57-12-5	Determine if waste or residual meets LDR treatment standard	590 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Lead	7439-92-1	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Nickel	7440-02-0	Determine if waste or residual meets LDR treatment standard	11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

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- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
F039	LDR-nonwastewater	1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)	67562-39-4	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.0025 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	1,1,1,2-Tetrachloroethane	630-20-6	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,1,1-Trichloroethane	71-55-6	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,1,2,2-Tetrachloroethane	79-34-6	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,1,2-Trichloroethane	79-00-5	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,1-Dichloroethane	75-34-3	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,1-Dichloroethylene	75-35-4	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	39001-02-0	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.005 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	3268-87-9	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.005 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	1,2,3,4,6,7,8- Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD)	35822-46-9	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.0025 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)	55673-89-7	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.0025 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	1,2,3-Trichloropropane	96-18-4	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,2,4,5-Tetrachlorobenzene	95-94-3	Determine if waste or residual meets LDR treatment standard	14 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,2,4-Trichlorobenzene	120-82-1	Determine if waste or residual meets LDR treatment standard	19 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,2-Dibromo-3-chloropropane	96-12-8	Determine if waste or residual meets LDR treatment standard	15 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,2-Dichloroethane	107-06-2	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,2-Dichloropropane	78-87-5	Determine if waste or residual meets LDR treatment standard	18 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,2-Diphenylhydrazine	122-66-7	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	1,4-Dinitrobenzene	100-25-4	Determine if waste or residual meets LDR treatment standard	2.3 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,4-Dioxane	123-91-1	Determine if waste or residual meets LDR treatment standard	170 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 8015, 8260, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	2,3,4,6-Tetrachlorophenol	58-90-2	Determine if waste or residual meets LDR treatment standard	7.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	2,4,5-T	93-76-5	Determine if waste or residual meets LDR treatment standard	7.9 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 8151	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	2,4,5-Trichlorophenol	95-95-4	Determine if waste or residual meets LDR treatment standard	7.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	2,4,6-Trichlorophenol	88-06-2	Determine if waste or residual meets LDR treatment standard	7.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

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- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
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- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
	LDR-nonwastewater	2,4-D (2,4-Dichlorophenoxyacetic acid)	94-75-7	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 8151	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	2,4-Dichlorophenol	120-83-2	Determine if waste or residual meets LDR treatment standard	14 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	2,4-Dimethylaniline (2,4-xylidine)	95-68-1	Concentrations must be demonstrated to meet applicable LDR during preapproval	0.66 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	1,3-Phenylenediamine	108-45-2	Concentrations must be demonstrated to meet applicable LDR during preapproval	0.66 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	2,4-Dinitrophenol	51-28-5	Determine if waste or residual meets LDR treatment standard	160 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	2,4-Dinitrotoluene	121-14-2	Determine if waste or residual meets LDR treatment standard	140 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	2,6-Dichlorophenol	87-65-0	Determine if waste or residual meets LDR treatment standard	14 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	2,6-Dinitrotoluene	606-20-2	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	2,4-Dimethyl phenol	105-67-9	Determine if waste or residual meets LDR treatment standard	14 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	2-Acetylaminofluorene	53-96-3	Determine if waste or residual meets LDR treatment standard	140 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	2-Chloro-1,3-butadiene	126-99-8	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	2-Chloronaphthalene	91-58-7	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	2-Chlorophenol	95-57-8	Determine if waste or residual meets LDR treatment standard	5.7 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	2-sec-Butyl-4,6-dinitrophenol (Dinoseb)	88-85-7	Determine if waste or residual meets LDR treatment standard	2.5 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	2-Naphthylamine	91-59-8	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	3-Chloropropylene	107-05-1	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	3-Methylcholanthrene	56-49-5	Determine if waste or residual meets LDR treatment standard	15 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	4-Aminobiphenyl	92-67-1	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	4,4′-Methylene bis(2-chloroaniline)	101-14-4	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	4,6-Dinitro-o-cresol	534-52-1	Determine if waste or residual meets LDR treatment standard	160 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	4-Bromophenyl phenyl ether	101-55-3	Determine if waste or residual meets LDR treatment standard	15 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	5-Nitro-o-toluidine	99-55-8	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Acenaphthene	83-32-9	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Acenaphthylene	208-96-8	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Acetone	67-64-1	Determine if waste or residual meets LDR treatment standard	160 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Acetonitrile	75-05-8	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Acetophenone	96-86-2	Determine if waste or residual meets LDR treatment standard	9.7 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Acrolein	107-02-8	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Acrylonitrile	107-13-1	Determine if waste or residual meets LDR treatment standard	84 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Aldrin	309-00-2	Determine if waste or residual meets LDR treatment standard	0.066 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

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- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
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- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
	LDR-nonwastewater	alpha-BHC	319-84-6	Determine if waste or residual meets LDR treatment standard	0.066 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Aniline	62-53-3	Determine if waste or residual meets LDR treatment standard	14 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Anthracene	120-12-7	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Aramite	140-57-8	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Antimony	7440-36-0	Determine if waste or residual meets LDR treatment standard	1.15 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Arsenic	7440-38-2	Determine if waste or residual meets LDR treatment standard	5.0 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Barium	7440-39-3	Determine if waste or residual meets LDR treatment standard	21 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benz(a)anthracene	56-55-3	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzene	71-43-2	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(a)pyrene	50-32-8	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene)	205-99-2	Determine if waste or residual meets LDR treatment standard	6.8 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(g,h,i)perylene	191-24-2	Determine if waste or residual meets LDR treatment standard	1.8 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene)	207-08-9	Determine if waste or residual meets LDR treatment standard	6.8 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Beryllium	7440-41-7	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	beta-BHC	319-85-7	Determine if waste or residual meets LDR treatment standard	0.066 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	bis(2-Chloroethoxy)methane	111-91-1	Determine if waste or residual meets LDR treatment standard	7.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	bis(2-Chloroethyl)ether	111-44-4	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	bis(2-Chloroisopropyl)ether	39638-32-9	Determine if waste or residual meets LDR treatment standard	7.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	bis(2-Ethylhexyl)phthalate	117-81-7	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Bromodichloromethane	75-27-4	Determine if waste or residual meets LDR treatment standard	15 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Bromoform (Tribromomethane)	75-25-2	Determine if waste or residual meets LDR treatment standard	15 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Butyl benzyl phthalate	85-68-7	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cadmium	7440-43-9	Determine if waste or residual meets LDR treatment standard	0.11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Carbon disulfide	75-15-0	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Carbon tetrachloride	56-23-5	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chlordane(alpha and gamma isomers)	57-74-9	Determine if waste or residual meets LDR treatment standard	0.26 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chlorobenzene	108-90-7	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chlorobenzilate	510-15-6	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]

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- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
	LDR-nonwastewater	Chlorodibromomethane	124-48-1	Determine if waste or residual meets LDR treatment standard	15 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chloroethane	75-00-3	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chloroform	67-66-3	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chloromethane (Methyl chloride)	74-87-3	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chromium (Total)	7440-47-3	Determine if waste or residual meets LDR treatment standard	0.60 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chrysene	218-01-9	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	cis-1,3-Dichloropropylene	10061-01-5	Determine if waste or residual meets LDR treatment standard	18 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Total)	57-12-5	Determine if waste or residual meets LDR treatment standard	590 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Amenable)	57-12-5	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Cyclohexanone	108-94-1	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	delta-BHC	319-86-8	Determine if waste or residual meets LDR treatment standard	0.066 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Dibenz(a,h)anthracene	53-70-3	Determine if waste or residual meets LDR treatment standard	8.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Dibenz(a,e)pyrene	192-65-4	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Dibromomethane	74-95-3	Determine if waste or residual meets LDR treatment standard	15 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Dichlorodifluoromethane	75-71-8	Determine if waste or residual meets LDR treatment standard	7.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Dieldrin	60-57-1	Determine if waste or residual meets LDR treatment standard	0.13 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Diethyl phthalate	84-66-2	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Dimethyl phthalate	131-11-3	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Di-n-butyl phthalate	84-74-2	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Di-n-octyl phthalate	117-84-0	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Di-n-propylnitrosamine	621-64-7	Determine if waste or residual meets LDR treatment standard	14 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Diphenylamine(difficult to distinguish from diphenylnitrosamine)	122-39-4	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Diphenylnitrosamine(difficult to distinguish from diphenylamine)	86-30-6	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Disulfoton	298-04-4	Determine if waste or residual meets LDR treatment standard	6.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Endosulfan I	939-98-8	Determine if waste or residual meets LDR treatment standard	0.066 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Endosulfan II	33213-6-5	Determine if waste or residual meets LDR treatment standard	0.13 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Endosulfan sulfate	1031-07-8	Determine if waste or residual meets LDR treatment standard	0.13 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Endrin	72-20-8	Determine if waste or residual meets LDR treatment standard	0.13 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

Table D.2 Land Disposal Restriction Verification

- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
	LDR-nonwastewater	Endrin aldehyde	7421-93-4	Determine if waste or residual meets LDR treatment standard	0.13 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Ethyl acetate	141-78-6	Determine if waste or residual meets LDR treatment standard	33 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Ethyl benzene	100-41-4	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Ethyl cyanide (Propanenitrile)	107-12-0	Determine if waste or residual meets LDR treatment standard	360 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Ethyl ether	60-29-7	Determine if waste or residual meets LDR treatment standard	160 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Ethyl methacrylate	97-63-2	Determine if waste or residual meets LDR treatment standard	160 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Ethylene dibromide (1,2-Dibromoethane)	106-93-4	Determine if waste or residual meets LDR treatment standard	15 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Ethylene Oxide	75-21-8	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Famphur	52-85-7	Determine if waste or residual meets LDR treatment standard	15 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Fluoranthene	206-44-0	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Fluorene	86-73-7	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Fluoride	16964-48-8	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	gamma-BHC	58-89-9	Determine if waste or residual meets LDR treatment standard	0.066 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Heptachlor	76-44-8	Determine if waste or residual meets LDR treatment standard	0.066 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Heptachlor epoxide	1024-57-3	Determine if waste or residual meets LDR treatment standard	0.066 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Hexachlorobenzene	118-74-1	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Hexachlorobutadiene	87-68-3	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Hexachlorocyclopentadiene	77-47-4	Determine if waste or residual meets LDR treatment standard	2.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Hexachloroethane	67-72-1	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Hexachloropropylene	1888-71-7	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550,8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	HxCDDs (All Hexachlorodibenzo-p-dioxins)	NA	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	HxCDFs (All Hexachlorodibenzofurans)	NA	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	Indeno (1,2,3-c,d) pyrene	193-39-5	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Iodomethane	74-88-4	Determine if waste or residual meets LDR treatment standard	65 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Isobutyl alcohol	78-83-1	Determine if waste or residual meets LDR treatment standard	170 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Isodrin	465-73-6	Determine if waste or residual meets LDR treatment standard	0.066 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

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- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
	LDR-nonwastewater	Isosafrole	120-58-1	Determine if waste or residual meets LDR treatment standard	2.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Kepone	143-50-8	Determine if waste or residual meets LDR treatment standard	0.13 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Lead	7439-92-1	Determine if waste or residual meets LDR treatment standard	0.75 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	m-Cresol (difficult to distinguish from p-cresol)	108-39-4	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	m-Dichlorobenzene	541-73-1	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550,8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Mercury	7439-97-6	Determine if waste or residual meets LDR treatment standard	0.025 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 7470, 7473	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Methacylonitrile	126-98-7	Determine if waste or residual meets LDR treatment standard	84 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Methanol	67-56-1	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Methapyrilene	91-80-5	Determine if waste or residual meets LDR treatment standard	1.5 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Methoxychlor	72-43-5	Determine if waste or residual meets LDR treatment standard	0.18 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Methyl bromide (Bromomethane)	74-83-9	Determine if waste or residual meets LDR treatment standard	15 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Methyl ethyl ketone	78-93-3	Determine if waste or residual meets LDR treatment standard	36 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Methyl isobutyl ketone	108-10-1	Determine if waste or residual meets LDR treatment standard	33 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Methyl methacrylate	80-62-6	Determine if waste or residual meets LDR treatment standard	160 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Methyl methansulfonate	66-27-3	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Methyl parathion	298-00-0	Determine if waste or residual meets LDR treatment standard	4.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Methylene chloride	75-09-2	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Naphthalene	91-20-3	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	n-Butyl alcohol	71-36-3	Determine if waste or residual meets LDR treatment standard	2.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Nickel	7440-02-0	Determine if waste or residual meets LDR treatment standard	11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Nitrobenzene	98-95-3	Determine if waste or residual meets LDR treatment standard	14 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	N-Nitrosodiethylamine	55-18-5	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	N-Nitrosodimethylamine	62-75-9	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	N-Nitroso-di-n-butylamine	924-16-3	Determine if waste or residual meets LDR treatment standard	17 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	N-Nitrosomethylethylamine	10595-95-6	Determine if waste or residual meets LDR treatment standard	2.3 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	N-Nitrosomorpholine	59-89-2	Determine if waste or residual meets LDR treatment standard	2.3 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	N-Nitrosopiperidine	100-75-4	Determine if waste or residual meets LDR treatment standard	35 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	N-Nitrosopyrrolidine	930-55-2	Determine if waste or residual meets LDR treatment standard	35 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

Table D.2 Land Disposal Restriction Verification

- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
	LDR-nonwastewater	o,p'-DDD	53-19-0	Determine if waste or residual meets LDR treatment standard	0.087 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	o,p'-DDE	3424-82-6	Determine if waste or residual meets LDR treatment standard	0.087 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	o,p'-DDT	789-02-6	Determine if waste or residual meets LDR treatment standard	0.087 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	o-Anisidine (2-methoxyaniline)	90-04-0	Determine if waste or residual meets LDR treatment standard	0.66 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	o-Cresol	95-48-7	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	o-Dichlorobenzene	95-50-1	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	p,p'-DDD	72-54-8	Determine if waste or residual meets LDR treatment standard	0.087 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	p,p'-DDE	72-55-9	Determine if waste or residual meets LDR treatment standard	0.087 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	p,p'-DDT	50-29-3	Determine if waste or residual meets LDR treatment standard	0.087 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Parathion	56-38-2	Determine if waste or residual meets LDR treatment standard	4.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	PCBs (sum of all PCB isomers, or all Aroclors)	1336-36-3	Concentrations must be demonstrated to meet applicable LDR during preapproval	10 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	p-Chloroaniline	106-47-8	Determine if waste or residual meets LDR treatment standard	16 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	p-Chloro-m-cresol	59-50-7	Determine if waste or residual meets LDR treatment standard	14 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	p-Cresidine	120-71-8	Determine if waste or residual meets LDR treatment standard	0.66 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	p-Cresol (difficult to distinguish from m-cresol)	106-44-5	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	p-Dichlorobenzene	106-46-7	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	PeCDDs (All Pentachlorodibenzo-p-dioxins)	NA	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	PeCDFs (All Pentachlorodibenzofurans)	NA	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	Pentachlorobenzene	608-93-5	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550,8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Pentachloronitrobenzene	82-68-8	Determine if waste or residual meets LDR treatment standard	4.8 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Pentachlorophenol	87-86-5	Determine if waste or residual meets LDR treatment standard	7.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8151, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phenacetin	62-44-2	Determine if waste or residual meets LDR treatment standard	16 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phenanthrene	85-01-8	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phenol	108-95-2	Determine if waste or residual meets LDR treatment standard	6.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phorate	298-02-2	Determine if waste or residual meets LDR treatment standard	4.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phthalic anhydride	85-44-9	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]

Table D.2 Land Disposal Restriction Verification

- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
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- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
	LDR-nonwastewater	p-Nitroaniline	100-01-6	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	p-Nitrophenol	100-02-7	Determine if waste or residual meets LDR treatment standard	29 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Pronamide	23950-58-5	Determine if waste or residual meets LDR treatment standard	1.5 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Pyrene	129-00-0	Determine if waste or residual meets LDR treatment standard	8.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Pyridine	110-86-1	Determine if waste or residual meets LDR treatment standard	16 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW 846 8015, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Safrole	94-59-7	Determine if waste or residual meets LDR treatment standard	22 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Selenium	7782-49-2	Determine if waste or residual meets LDR treatment standard	5.7 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Silver	7440-22-4	Determine if waste or residual meets LDR treatment standard	0.14 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Silvex (2,4,5-TP)	93-72-1	Determine if waste or residual meets LDR treatment standard	7.9 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 8151	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Sulfide	8496-25-8	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	TCDDs (All Tetrachlorodibenzo-p-dioxins)	NA	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	TCDFs (All Tetrachlorodibenzofurans)	NA	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	Tetrachloroethylene	127-18-4	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Thallium	7440-28-0	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Toluene	108-88-3	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Toxaphene	8001-35-2	Determine if waste or residual meets LDR treatment standard	2.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	trans-1,2-Dichloroethylene	156-60-5	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	trans-1,3-Dichloropropylene	10061-02-6	Determine if waste or residual meets LDR treatment standard	18 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Trichloroethylene	79-01-6	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Trichlorofluoromethane	75-69-4	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	tris(2,3-Dibromopropyl) phosphate	126-72-7	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Vanadium	7440-62-2	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Vinyl chloride	75-01-4	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)	1330-20-7	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K001	LDR-nonwastewater	Naphthalene	91-20-3	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Pentachlorophenol	87-86-5	Determine if waste or residual meets LDR treatment standard	7.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8151, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phenanthrene	85-01-8	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Pyrene	129-00-0	Determine if waste or residual meets LDR treatment standard	8.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

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- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
	LDR-nonwastewater	Toluene	108-88-3	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)	1330-20-7	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Lead	7439-92-1	Determine if waste or residual meets LDR treatment standard	0.75 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K002	LDR-nonwastewater	Chromium (Total)	7440-47-3	Determine if waste or residual meets LDR treatment standard	0.60 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Lead	7439-92-1	Determine if waste or residual meets LDR treatment standard	0.75 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K003	LDR-nonwastewater	Chromium (Total)	7440-47-3	Determine if waste or residual meets LDR treatment standard	0.60 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Lead	7439-92-1	Determine if waste or residual meets LDR treatment standard	0.75 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K004	LDR-nonwastewater	Chromium (Total)	7440-47-3	Determine if waste or residual meets LDR treatment standard	0.60 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Lead	7439-92-1	Determine if waste or residual meets LDR treatment standard	0.75 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K005	LDR-nonwastewater	Chromium (Total)	7440-47-3	Determine if waste or residual meets LDR treatment standard	0.60 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Lead	7439-92-1	Determine if waste or residual meets LDR treatment standard	0.75 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Total)	57-12-5	Determine if waste or residual meets LDR treatment standard	590 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K006 (anhydrous)	LDR-nonwastewater	Chromium (Total)	7440-47-3	Determine if waste or residual meets LDR treatment standard	0.60 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Lead	7439-92-1	Determine if waste or residual meets LDR treatment standard	0.75 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K006 (hydrated)	LDR-nonwastewater	Chromium (Total)	7440-47-3	Determine if waste or residual meets LDR treatment standard	0.60 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Lead	7439-92-1	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
K007	LDR-nonwastewater	Chromium (Total)	7440-47-3	Determine if waste or residual meets LDR treatment standard	0.60 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Lead	7439-92-1	Determine if waste or residual meets LDR treatment standard	0.75 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Total)	57-12-5	Determine if waste or residual meets LDR treatment standard	590 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K008	LDR-nonwastewater	Chromium (Total)	7440-47-3	Determine if waste or residual meets LDR treatment standard	0.60 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Lead	7439-92-1	Determine if waste or residual meets LDR treatment standard	0.75 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K009	LDR-nonwastewater	Chloroform	67-66-3	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K010	LDR-nonwastewater	Chloroform	67-66-3	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K011	LDR-nonwastewater	Acetonitrile	75-05-8	Determine if waste or residual meets LDR treatment standard	38 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Acrylonitrile	107-13-1	Determine if waste or residual meets LDR treatment standard	84 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Acrylamide	79-06-1	Determine if waste or residual meets LDR treatment standard	23 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 8032, 8316	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzene	71-43-2	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

Table D.2 Land Disposal Restriction Verification

- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
	LDR-nonwastewater	Cyanides (Total)	57-12-5	Determine if waste or residual meets LDR treatment standard	590 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K013	LDR-nonwastewater	Acetonitrile	75-05-8	Determine if waste or residual meets LDR treatment standard	38 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Acrylonitrile	107-13-1	Determine if waste or residual meets LDR treatment standard	84 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Acrylamide	79-06-1	Determine if waste or residual meets LDR treatment standard	23 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 8032, 8316	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzene	71-43-2	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Total)	57-12-5	Determine if waste or residual meets LDR treatment standard	590 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K014	LDR-nonwastewater	Acetonitrile	75-05-8	Determine if waste or residual meets LDR treatment standard	38 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Acrylonitrile	107-13-1	Determine if waste or residual meets LDR treatment standard	84 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Acrylamide	79-06-1	Determine if waste or residual meets LDR treatment standard	23 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 8032, 8316	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzene	71-43-2	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Total)	57-12-5	Determine if waste or residual meets LDR treatment standard	590 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K015	LDR-nonwastewater	Anthracene	120-12-7	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzal chloride	98-87-3	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 8121	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(b)fluoranthene	205-99-2	Determine if waste or residual meets LDR treatment standard	6.8 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene)	207-08-9	Determine if waste or residual meets LDR treatment standard	6.8 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phenanthrene	85-01-8	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Toluene	108-88-3	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chromium (Total)	7440-47-3	Determine if waste or residual meets LDR treatment standard	0.60 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Nickel	7440-02-0	Determine if waste or residual meets LDR treatment standard	11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K016	LDR-nonwastewater	Hexachlorobenzene	118-74-1	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Hexachlorobutadiene	87-68-3	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Hexachlorocyclopentadiene	77-47-4	Determine if waste or residual meets LDR treatment standard	2.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Hexachloroethane	67-72-1	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Tetrachloroethylene	127-18-4	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K017	LDR-nonwastewater	bis(2-Chloroethyl)ether	111-44-4	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,2-Dichloropropane	78-87-5	Determine if waste or residual meets LDR treatment standard	18 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

Table D.2 Land Disposal Restriction Verification

- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
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- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
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- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
	LDR-nonwastewater	1,2,3-Trichloropropane	96-18-4	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K018	LDR-nonwastewater	Chloroethane	75-00-3	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chloromethane	74-87-3	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	1,1-Dichloroethane	75-34-3	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,2-Dichloroethane	107-06-2	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Hexachlorobenzene	118-74-1	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Hexachlorobutadiene	87-68-3	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Hexachloroethane	67-72-1	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Pentachloroethane	76-01-7	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,1,1-Trichloroethane	71-55-6	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K019	LDR-nonwastewater	bis(2-Chloroethyl)ether	111-44-4	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chlorobenzene	108-90-7	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chloroform	67-66-3	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	p-Dichlorobenzene	106-46-7	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	1,2-Dichloroethane	107-06-2	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Fluorene	86-73-7	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Hexachloroethane	67-72-1	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Naphthalene	91-20-3	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phenanthrene	85-01-8	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,2,4,5-Tetrachlorobenzene	95-94-3	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Tetrachloroethylene	127-18-4	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,2,4-Trichlorobenzene	120-82-1	Determine if waste or residual meets LDR treatment standard	19 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,1,1-Trichloroethane	71-55-6	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K020	LDR-nonwastewater	1,2-Dichloroethane	107-06-2	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,1,2,2-Tetrachloroethane	79-34-6	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Tetrachloroethylene	127-18-4	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K021	LDR-nonwastewater	Carbon tetrachloride	56-23-5	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chloroform	67-66-3	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

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- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
	LDR-nonwastewater	Antimony	7440-36-0	Determine if waste or residual meets LDR treatment standard	1.15 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K022	LDR-nonwastewater	Toluene	108-88-3	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Acetophenone	96-86-2	Determine if waste or residual meets LDR treatment standard	9.7 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Diphenylamine(difficult to distinguish from diphenylnitrosamine)	122-39-4	Determine if waste or residual meets LDR treatment standard	13 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Diphenylnitrosamine(difficult to distinguish from diphenylamine)	86-30-6	Determine if waste or residual meets LDR treatment standard	13 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phenol	108-95-2	Determine if waste or residual meets LDR treatment standard	6.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chromium (Total)	7440-47-3	Determine if waste or residual meets LDR treatment standard	0.60 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Nickel	7440-02-0	Determine if waste or residual meets LDR treatment standard	11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K023	LDR-nonwastewater	Phthalic anhydride (measured as Phthalic acid or Terephthalic acid)	100-21-0	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phthalic anhydride (measured as Phthalic acid or Terephthalic acid)	85-44-9	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K024	LDR-nonwastewater	Phthalic anhydride (measured as Phthalic acid or Terephthalic acid)	100-21-0	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phthalic anhydride (measured as Phthalic acid or Terephthalic acid)	85-44-9	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K025	LDR-nonwastewater	NA	NA	CMBST	CMBST	NA[a]	NA[a]	NA[a]
K026	LDR-nonwastewater	NA	NA	CMBST	CMBST	NA[a]	NA[a]	NA[a]
K027	LDR-nonwastewater	NA	NA	CMBST	CMBST	NA[a]	NA[a]	NA[a]
K028	LDR-nonwastewater	1,1-Dichloroethane	75-34-3	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	trans-1,2-Dichloroethylene	156-60-5	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Hexachlorobutadiene	87-68-3	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Hexachloroethane	67-72-1	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Pentachloroethane	76-01-7	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,1,1,2-Tetrachloroethane	630-20-6	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,1,2,2-Tetrachloroethane	79-34-6	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Tetrachloroethylene	127-18-4	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,1,1-Trichloroethane	71-55-6	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,1,2-Trichloroethane	79-00-5	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cadmium	7440-43-9	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Chromium (Total)	7440-47-3	Determine if waste or residual meets LDR treatment standard	0.60 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Lead	7439-92-1	Determine if waste or residual meets LDR treatment standard	0.75 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

Table D.2 Land Disposal Restriction Verification

- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
	LDR-nonwastewater	Nickel	7440-02-0	Determine if waste or residual meets LDR treatment standard	11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K029	LDR-nonwastewater	Chloroform	67-66-3	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,2-Dichloroethane	107-06-2	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,1-Dichloroethylene	75-35-4	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,1,1-Trichloroethane	71-55-6	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Vinyl chloride	75-01-4	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K030	LDR-nonwastewater	o-Dichlorobenzene	95-50-1	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	p-Dichlorobenzene	106-46-7	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Hexachlorobutadiene	87-68-3	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Hexachloroethane	67-72-1	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Hexachloropropylene	1888-71-7	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550,8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Pentachlorobenzene	608-93-5	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550,8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Pentachloroethane	76-01-7	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,2,4,5-Tetrachlorobenzene	95-94-3	Determine if waste or residual meets LDR treatment standard	14 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Tetrachloroethylene	127-18-4	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,2,4-Trichlorobenzene	120-82-1	Determine if waste or residual meets LDR treatment standard	19 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K031	LDR-nonwastewater	Arsenic	7440-38-2	Determine if waste or residual meets LDR treatment standard	5.0 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K032	LDR-nonwastewater	Hexachlorocyclopentadiene	77-47-4	Determine if waste or residual meets LDR treatment standard	2.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chlordane(alpha and gamma isomers)	57-74-9	Determine if waste or residual meets LDR treatment standard	0.26 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Heptachlor	76-44-8	Determine if waste or residual meets LDR treatment standard	0.066 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Heptachlor epoxide	1024-57-3	Determine if waste or residual meets LDR treatment standard	0.066 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K033	LDR-nonwastewater	Hexachlorocyclopentadiene	77-47-4	Determine if waste or residual meets LDR treatment standard	2.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K034	LDR-nonwastewater	Hexachlorocyclopentadiene	77-47-4	Determine if waste or residual meets LDR treatment standard	2.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K035	LDR-nonwastewater	Acenaphthene	83-32-9	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Anthracene	120-12-7	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benz(a)anthracene	56-55-3	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(a)pyrene	50-32-8	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

Table D.2 Land Disposal Restriction Verification

- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
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- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
	LDR-nonwastewater	Chrysene	218-01-9	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	o-Cresol	95-48-7	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	m-Cresol (difficult to distinguish from p-cresol)	108-39-4	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	p-Cresol (difficult to distinguish from m-cresol)	106-44-6	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Dibenz(a,h)anthracene	53-70-3	Determine if waste or residual meets LDR treatment standard	8.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Fluoranthene	206-44-0	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Fluorene	86-73-7	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Indeno(1,2,3-c,d)pyrene	193-39-5	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Naphthalene	91-20-3	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phenanthrene	85-01-8	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phenol	108-95-2	Determine if waste or residual meets LDR treatment standard	6.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Pyrene	129-00-0	Determine if waste or residual meets LDR treatment standard	8.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K036	LDR-nonwastewater	Disulfoton	298-04-4	Determine if waste or residual meets LDR treatment standard	6.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K037	LDR-nonwastewater	Disulfoton	298-04-4	Determine if waste or residual meets LDR treatment standard	6.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Toluene	108-88-3	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K038	LDR-nonwastewater	Phorate	298-02-2	Determine if waste or residual meets LDR treatment standard	4.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K039	LDR-nonwastewater	NA	NA	CMBST	CMBST	NA[a]	NA[a]	NA[a]
K040	LDR-nonwastewater	Phorate	298-02-2	Determine if waste or residual meets LDR treatment standard	4.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K041	LDR-nonwastewater	Toxaphene	8001-35-2	Determine if waste or residual meets LDR treatment standard	2.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K042	LDR-nonwastewater	o-Dichlorobenzene	95-50-1	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	p-Dichlorobenzene	106-46-7	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Pentachlorobenzene	608-93-5	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550,8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,2,4,5-Tetrachlorobenzene	95-94-3	Determine if waste or residual meets LDR treatment standard	14 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,2,4-Trichlorobenzene	120-82-1	Determine if waste or residual meets LDR treatment standard	19 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K043	LDR-nonwastewater	2,4-Dichlorophenol	120-83-2	Determine if waste or residual meets LDR treatment standard	14 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	2,6-Dichlorophenol	87-65-0	Determine if waste or residual meets LDR treatment standard	14 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	2,4,5-Trichlorophenol	95-95-4	Determine if waste or residual meets LDR treatment standard	7.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

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- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
	LDR-nonwastewater	2,4,6-Trichlorophenol	88-06-2	Determine if waste or residual meets LDR treatment standard	7.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	2,3,4,6-Tetrachlorophenol	58-90-2	Determine if waste or residual meets LDR treatment standard	7.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Pentachlorophenol	87-86-5	Determine if waste or residual meets LDR treatment standard	7.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8151, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Tetrachloroethylene	127-18-4	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	HxCDDs (All Hexachlorodibenzo-p-dioxins)	NA	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	HxCDFs (All Hexachlorodibenzofurans)	NA	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	PeCDDs (All Pentachlorodibenzo-p-dioxins)	NA	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	PeCDFs (All Pentachlorodibenzofurans)	NA	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	TCDDs (All Tetrachlorodibenzo-p-dioxins)	NA	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	TCDFs (All Tetrachlorodibenzofurans)	NA	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg	NA[c]	NA[c]	NA[c]
K044	LDR-nonwastewater	NA	NA	DEACT	DEACT	NA[a]	NA[a]	NA[a]
K045	LDR-nonwastewater	NA	NA	DEACT	DEACT	NA[a]	NA[a]	NA[a]
K046	LDR-nonwastewater	Lead	7439-92-1	Determine if waste or residual meets LDR treatment standard	0.75 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K047	LDR-nonwastewater	NA	NA	DEACT	DEACT	NA[a]	NA[a]	NA[a]
K048	LDR-nonwastewater	Benzene	71-43-2	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(a)pyrene	50-32-8	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	bis(2-Ethylhexyl)phthalate	117-81-7	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chrysene	218-01-9	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Di-n-butyl phthalate	84-74-2	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Ethylbenzene	100-41-4	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Fluorene	86-73-7	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Naphthalene	91-20-3	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phenanthrene	85-01-8	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phenol	108-95-2	Determine if waste or residual meets LDR treatment standard	6.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Pyrene	129-00-0	Determine if waste or residual meets LDR treatment standard	8.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Toluene	108-88-3	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

Table D.2 Land Disposal Restriction Verification

- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
	LDR-nonwastewater	Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)	1330-20-7	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chromium (Total)	7440-47-3	Determine if waste or residual meets LDR treatment standard	0.60 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Total)	57-12-5	Determine if waste or residual meets LDR treatment standard	590 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Lead	7439-92-1	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Nickel	7440-02-0	Determine if waste or residual meets LDR treatment standard	11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K049	LDR-nonwastewater	Anthracene	120-12-7	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzene	71-43-2	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(a)pyrene	50-32-8	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	bis(2-Ethylhexyl)phthalate	117-81-7	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Carbon disulfide	75-15-0	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Chrysene	218-01-9	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	2,4-Dimethyl phenol	105-67-9	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Ethylbenzene	100-41-4	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Naphthalene	91-20-3	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phenanthrene	85-01-8	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phenol	108-95-2	Determine if waste or residual meets LDR treatment standard	6.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Pyrene	129-00-0	Determine if waste or residual meets LDR treatment standard	8.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Toluene	108-88-3	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)	1330-20-7	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Total)	57-12-5	Determine if waste or residual meets LDR treatment standard	590 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chromium (Total)	7440-47-3	Determine if waste or residual meets LDR treatment standard	0.60 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Lead	7439-92-1	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Nickel	7440-02-0	Determine if waste or residual meets LDR treatment standard	11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K050	LDR-nonwastewater	Benzo(a)pyrene	50-32-8	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phenol	108-95-2	Determine if waste or residual meets LDR treatment standard	6.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Total)	57-12-5	Determine if waste or residual meets LDR treatment standard	590 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chromium (Total)	7440-47-3	Determine if waste or residual meets LDR treatment standard	0.60 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Lead	7439-92-1	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Nickel	7440-02-0	Determine if waste or residual meets LDR treatment standard	11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

Table D.2 Land Disposal Restriction Verification

- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
K051	LDR-nonwastewater	Acenaphthene	83-32-9	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Anthracene	120-12-7	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benz(a)anthracene	56-55-3	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzene	71-43-2	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(a)pyrene	50-32-8	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	bis(2-Ethylhexyl)phthalate	117-81-7	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chrysene	218-01-9	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Di-n-butyl phthalate	84-74-2	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Ethylbenzene	100-41-4	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Fluorene	86-73-7	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Naphthalene	91-20-3	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phenanthrene	85-01-8	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phenol	108-95-2	Determine if waste or residual meets LDR treatment standard	6.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Pyrene	129-00-0	Determine if waste or residual meets LDR treatment standard	8.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Toluene	108-88-3	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)	1330-20-7	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Total)	57-12-5	Determine if waste or residual meets LDR treatment standard	590 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chromium (Total)	7440-47-3	Determine if waste or residual meets LDR treatment standard	0.60 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Lead	7439-92-1	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Nickel	7440-02-0	Determine if waste or residual meets LDR treatment standard	11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K052	LDR-nonwastewater	Benzene	71-43-2	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(a)pyrene	50-32-8	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	o-Cresol	95-48-7	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	m-Cresol (difficult to distinguish from p-cresol)	108-39-4	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	p-Cresol (difficult to distinguish from m-cresol)	106-44-5	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	2,4-Dimethyl phenol	105-67-9	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Ethylbenzene	100-41-4	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Naphthalene	91-20-3	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

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- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
	LDR-nonwastewater	Phenanthrene	85-01-8	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phenol	108-95-2	Determine if waste or residual meets LDR treatment standard	6.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Toluene	108-88-3	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)	1330-20-7	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chromium (Total)	7440-47-3	Determine if waste or residual meets LDR treatment standard	0.60 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Total)	57-12-5	Determine if waste or residual meets LDR treatment standard	590 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Lead	7439-92-1	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Nickel	7440-02-0	Determine if waste or residual meets LDR treatment standard	11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K060	LDR-nonwastewater	Benzene	71-43-2	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(a)pyrene	50-32-8	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Naphthalene	91-20-3	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phenol	108-95-2	Determine if waste or residual meets LDR treatment standard	6.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Total)	57-12-5	Determine if waste or residual meets LDR treatment standard	590 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K061	LDR-nonwastewater	Antimony	7440-36-0	Determine if waste or residual meets LDR treatment standard	1.15mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Arsenic	7440-38-2	Determine if waste or residual meets LDR treatment standard	5.0 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Barium	7440-39-3	Determine if waste or residual meets LDR treatment standard	21 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Beryllium	7440-41-7	Determine if waste or residual meets LDR treatment standard	1.22 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cadmium	7440-43-9	Determine if waste or residual meets LDR treatment standard	0.11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chromium (Total)	7440-47-3	Determine if waste or residual meets LDR treatment standard	0.60 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Lead	7439-92-1	Determine if waste or residual meets LDR treatment standard	0.75 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Mercury	7439-97-6	Determine if waste or residual meets LDR treatment standard	0.025 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 7470, 7473	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Nickel	7440-02-0	Determine if waste or residual meets LDR treatment standard	11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Selenium	7782-49-2	Determine if waste or residual meets LDR treatment standard	5.7 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Silver	7440-22-4	Determine if waste or residual meets LDR treatment standard	0.14 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Thallium	7440-28-0	Determine if waste or residual meets LDR treatment standard	0.20 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Zinc	7440-66-6	Determine if waste or residual meets LDR treatment standard	4.3 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K062	LDR-nonwastewater	Chromium (Total)	7440-47-3	Determine if waste or residual meets LDR treatment standard	0.60 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

Table D.2 Land Disposal Restriction Verification

- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
	LDR-nonwastewater	Lead	7439-92-1	Determine if waste or residual meets LDR treatment standard	0.75 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Nickel	7440-02-0	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
K069 (Low Lead Subcategory)	LDR-nonwastewater	Cadmium	7440-43-9	Determine if waste or residual meets LDR treatment standard	0.11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Lead	7439-92-1	Determine if waste or residual meets LDR treatment standard	0.75 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K069 (High Lead Subcategory)	LDR-nonwastewater	NA	NA	RLEAD	RLEAD	NA[a]	NA[a]	NA[a]
K071 (nonwastewaters that are residues from RMERC)	LDR-nonwastewater	Mercury	7439-97-6	Determine if waste or residual meets LDR treatment standard	0.20 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 7470, 7473	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K071 (nonwastewaters that are not residues from RMERC)	LDR-nonwastewater	Mercury	7439-97-6	Determine if waste or residual meets LDR treatment standard	0.025 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 7470, 7473	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K071 (all wastewaters)	LDR-nonwastewater	Mercury	7439-97-6	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
K073	LDR-nonwastewater	Carbon tetrachloride	56-23-5	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chloroform	67-66-3	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Hexachloroethane	67-72-1	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Tetrachloroethylene	127-18-4	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,1,1-Trichloroethane	71-55-6	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K083	LDR-nonwastewater	Aniline	62-53-3	Determine if waste or residual meets LDR treatment standard	14 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzene	71-43-2	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyclohexanone	108-94-1	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Diphenylamine(difficult to distinguish from diphenylnitrosamine)	122-39-4	Determine if waste or residual meets LDR treatment standard	13 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Diphenylnitrosamine(difficult to distinguish from diphenylamine)	86-30-6	Determine if waste or residual meets LDR treatment standard	13 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Nitrobenzene	98-95-3	Determine if waste or residual meets LDR treatment standard	14 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phenol	108-95-2	Determine if waste or residual meets LDR treatment standard	6.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Nickel	7440-02-0	Determine if waste or residual meets LDR treatment standard	11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K084	LDR-nonwastewater	Arsenic	7440-38-2	Determine if waste or residual meets LDR treatment standard	5.0 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K085	LDR-nonwastewater	Benzene	71-43-2	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chlorobenzene	108-90-7	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	m-Dichlorobenzene	541-73-1	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550,8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	o-Dichlorobenzene	95-50-1	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	p-Dichlorobenzene	106-46-7	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Hexachlorobenzene	118-74-1	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Total PCBs (sum of all PCB isomers, or all Aroclors)	1336-36-3	Concentrations must be demonstrated to meet applicable LDR during preapproval	10 mg/kg	NA[c]	NA[c]	NA[c]

Table D.2 Land Disposal Restriction Verification

- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
	LDR-nonwastewater	Pentachlorobenzene	608-93-5	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550,8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,2,4,5-Tetrachlorobenzene	95-94-3	Determine if waste or residual meets LDR treatment standard	14 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,2,4-Trichlorobenzene	120-82-1	Determine if waste or residual meets LDR treatment standard	19 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K086	LDR-nonwastewater	Acetone	67-64-1	Determine if waste or residual meets LDR treatment standard	160 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Acetophenone	96-86-2	Determine if waste or residual meets LDR treatment standard	9.7 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	bis(2-Ethylhexyl)phthalate	117-81-7	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	n-Butyl alcohol	71-36-3	Determine if waste or residual meets LDR treatment standard	2.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Butyl benzyl phthalate	85-68-7	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyclohexanone	108-94-1	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	o-Dichlorobenzene	95-50-1	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Diethyl phthalate	84-66-2	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Dimethyl phthalate	131-11-3	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Di-n-butyl phthalate	84-74-2	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Di-n-octyl phthalate	117-84-0	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Ethyl acetate	141-78-6	Determine if waste or residual meets LDR treatment standard	33 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Ethylbenzene	100-41-4	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Methanol	67-56-1	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Methyl ethyl ketone	78-93-3	Determine if waste or residual meets LDR treatment standard	36 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Methyl isobutyl ketone	108-10-1	Determine if waste or residual meets LDR treatment standard	33 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Methylene chloride	75-09-2	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Naphthalene	91-20-3	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Nitrobenzene	98-95-3	Determine if waste or residual meets LDR treatment standard	14 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Toluene	108-88-3	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,1,1-Trichloroethane	71-55-6	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Trichloroethylene	79-01-6	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)	1330-20-7	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chromium (Total)	7440-47-3	Determine if waste or residual meets LDR treatment standard	0.60 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

Table D.2 Land Disposal Restriction Verification

- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
	LDR-nonwastewater	Cyanides (Total)	57-12-5	Determine if waste or residual meets LDR treatment standard	590 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Lead	7439-92-1	Determine if waste or residual meets LDR treatment standard	0.75 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K087	LDR-nonwastewater	Acenaphthylene	208-96-8	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzene	71-43-2	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chrysene	218-01-9	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Fluoranthene	206-44-0	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Indeno(1,2,3-c,d)pyrene	193-39-5	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Naphthalene	91-20-3	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phenanthrene	85-01-8	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Toluene	108-88-3	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)	1330-20-7	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Lead	7439-92-1	Determine if waste or residual meets LDR treatment standard	0.75 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K088	LDR-nonwastewater	Acenaphthene	83-32-9	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Anthracene	120-12-7	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benz(a)anthracene	56-55-3	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(a)pyrene	50-32-8	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(b)fluoranthene	205-99-2	Determine if waste or residual meets LDR treatment standard	6.8 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(k)fluoranthene	207-08-9	Determine if waste or residual meets LDR treatment standard	6.8 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(g,h,i)perylene	191-24-2	Determine if waste or residual meets LDR treatment standard	1.8 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chrysene	218-01-9	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Dibenz(a,h)anthracene	53-70-3	Determine if waste or residual meets LDR treatment standard	8.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Fluoranthene	206-44-0	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Indeno(1,2,3-c,d)pyrene	193-39-5	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phenanthrene	85-01-8	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Pyrene	129-00-0	Determine if waste or residual meets LDR treatment standard	8.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Antimony	7440-36-0	Determine if waste or residual meets LDR treatment standard	1.15 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

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- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
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Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
	LDR-nonwastewater	Arsenic	7440-38-2	Determine if waste or residual meets LDR treatment standard	26.1 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6011	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Barium	7440-39-3	Determine if waste or residual meets LDR treatment standard	21 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Beryllium	7440-41-7	Determine if waste or residual meets LDR treatment standard	1.22 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cadmium	7440-43-9	Determine if waste or residual meets LDR treatment standard	0.11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chromium (Total)	7440-47-3	Determine if waste or residual meets LDR treatment standard	0.60 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Lead	7439-92-1	Determine if waste or residual meets LDR treatment standard	0.75 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Mercury	7439-97-6	Determine if waste or residual meets LDR treatment standard	0.025 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 7470, 7473	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Nickel	7440-02-0	Determine if waste or residual meets LDR treatment standard	11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Selenium	7782-49-2	Determine if waste or residual meets LDR treatment standard	5.7 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Silver	7440-22-4	Determine if waste or residual meets LDR treatment standard	0.14 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Total)	57-12-5	Determine if waste or residual meets LDR treatment standard	590 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Amenable)	57-12-5	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Fluoride	16984-48-8	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
K093	LDR-nonwastewater	Phthalic anhydride (measured as Phthalic acid or Terephthalic acid)	100-21-0	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phthalic anhydride (measured as Phthalic acid or Terephthalic acid)	85-44-9	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K094	LDR-nonwastewater	Phthalic anhydride (measured as Phthalic acid or Terephthalic acid)	100-21-0	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phthalic anhydride (measured as Phthalic acid or Terephthalic acid)	85-44-9	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K095	LDR-nonwastewater	Hexachloroethane	67-72-1	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Pentachloroethane	76-01-7	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,1,1,2-Tetrachloroethane	630-20-6	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,1,2,2-Tetrachloroethane	79-34-6	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Tetrachloroethylene	127-18-4	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,1,2-Trichloroethane	79-00-5	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Trichloroethylene	79-01-6	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K096	LDR-nonwastewater	m-Dichlorobenzene	541-73-1	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550,8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Pentachloroethane	76-01-7	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,1,1,2-Tetrachloroethane	630-20-6	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

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- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
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- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
	LDR-nonwastewater	1,1,2,2-Tetrachloroethane	79-34-6	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Tetrachloroethylene	127-18-4	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,2,4-Trichlorobenzene	120-82-1	Determine if waste or residual meets LDR treatment standard	19 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,1,2-Trichloroethane	79-00-5	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Trichloroethylene	79-01-6	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K097	LDR-nonwastewater	Chlordane(alpha and gamma isomers)	57-74-9	Determine if waste or residual meets LDR treatment standard	0.26 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Heptachlor	76-44-8	Determine if waste or residual meets LDR treatment standard	0.066 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Heptachlor epoxide	1024-57-3	Determine if waste or residual meets LDR treatment standard	0.066 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Hexachlorocyclopentadiene	77-47-4	Determine if waste or residual meets LDR treatment standard	2.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K098	LDR-nonwastewater	Toxaphene	8001-35-2	Determine if waste or residual meets LDR treatment standard	2.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K099	LDR-nonwastewater	2,4-Dichlorophenoxyacetic acid	94-75-7	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 8151	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	HxCDDs (All Hexachlorodibenzo-p-dioxins)	NA	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	HxCDFs (All Hexachlorodibenzofurans)	NA	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	PeCDDs (All Pentachlorodibenzo-p-dioxins)	NA	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	PeCDFs (All Pentachlorodibenzofurans)	NA	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	TCDDs (All Tetrachlorodibenzo-p-dioxins)	NA	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	TCDFs (All Tetrachlorodibenzofurans)	NA	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg	NA[c]	NA[c]	NA[c]
K100	LDR-nonwastewater	Cadmium	7440-43-9	Determine if waste or residual meets LDR treatment standard	0.11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chromium (Total)	7440-47-3	Determine if waste or residual meets LDR treatment standard	0.60 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Lead	7439-92-1	Determine if waste or residual meets LDR treatment standard	0.75 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K101	LDR-nonwastewater	o-Nitroaniline	88-74-4	Determine if waste or residual meets LDR treatment standard	14 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Arsenic	7440-38-2	Determine if waste or residual meets LDR treatment standard	5.0 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cadmium	7440-43-9	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Lead	7439-92-1	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Mercury	7439-97-6	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
K102	LDR-nonwastewater	o-Nitrophenol	88-75-5	Determine if waste or residual meets LDR treatment standard	13 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

Table D.2 Land Disposal Restriction Verification

- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
	LDR-nonwastewater	Arsenic	7440-38-2	Determine if waste or residual meets LDR treatment standard	5.0 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cadmium	7440-43-9	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Lead	7439-92-1	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
	LDR-nonwastewater	Mercury	7439-97-6	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
K103	LDR-nonwastewater	Aniline	62-53-3	Determine if waste or residual meets LDR treatment standard	14 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzene	71-43-2	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	2,4-Dinitrophenol	51-28-5	Determine if waste or residual meets LDR treatment standard	160 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Nitrobenzene	98-95-3	Determine if waste or residual meets LDR treatment standard	14 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phenol	108-95-2	Determine if waste or residual meets LDR treatment standard	6.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K104	LDR-nonwastewater	Aniline	62-53-3	Determine if waste or residual meets LDR treatment standard	14 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzene	71-43-2	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	2,4-Dinitrophenol	51-28-5	Determine if waste or residual meets LDR treatment standard	160 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Nitrobenzene	98-95-3	Determine if waste or residual meets LDR treatment standard	14 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phenol	108-95-2	Determine if waste or residual meets LDR treatment standard	6.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Total)	57-12-5	Determine if waste or residual meets LDR treatment standard	590 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K105	LDR-nonwastewater	Benzene	71-43-2	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chlorobenzene	108-90-7	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	2-Chlorophenol	95-57-8	Determine if waste or residual meets LDR treatment standard	5.7 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	o-Dichlorobenzene	95-50-1	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	p-Dichlorobenzene	106-46-7	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phenol	108-95-2	Determine if waste or residual meets LDR treatment standard	6.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	2,4,5-Trichlorophenol	95-95-4	Determine if waste or residual meets LDR treatment standard	7.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	2,4,6-Trichlorophenol	88-06-2	Determine if waste or residual meets LDR treatment standard	7.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K106 (wastewater treatment sludge from the mercury cell process in chlorine production) nonwastewaters that contain greater than or equal to 260 mg/kg total mercury)	LDR-nonwastewater	Mercury	7439-97-6	RMERC	RMERC	NA[a]	NA[a]	NA[a]
K106 (wastewater treatment sludge from the mercury cell process in chlorine production) nonwastewaters that contain less than 260 mg/kg total mercury that are residues from RMERC	LDR-nonwastewater	Mercury	7439-97-6	Determine if waste or residual meets LDR treatment standard	0.20 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 7470, 7473	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K106 (other nonwastewaters than contain less than 260 mg/kg total mercury and are not residues from RMERC)	LDR-nonwastewater	Mercury	7439-97-6	Determine if waste or residual meets LDR treatment standard	0.025 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 7470, 7473	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K106 (all other wastewaters)	LDR-nonwastewater	Mercury	7439-97-6	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
K107	LDR-nonwastewater	NA	NA	CMBST	CMBST	NA[a]	NA[a]	NA[a]

Table D.2 Land Disposal Restriction Verification

- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
K108	LDR-nonwastewater	NA	NA	CMBST	CMBST	NA[a]	NA[a]	NA[a]
K109	LDR-nonwastewater	NA	NA	CMBST	CMBST	NA[a]	NA[a]	NA[a]
K110	LDR-nonwastewater	NA	NA	CMBST	CMBST	NA[a]	NA[a]	NA[a]
K111	LDR-nonwastewater	2,4-Dinitrotoluene	121-14-2	Determine if waste or residual meets LDR treatment standard	140 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	2,6-Dinitrotoluene	606-20-2	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K112	LDR-nonwastewater	NA	NA	CMBST	CMBST	NA[a]	NA[a]	NA[a]
K113	LDR-nonwastewater	NA	NA	CMBST	CMBST	NA[a]	NA[a]	NA[a]
K114	LDR-nonwastewater	NA	NA	CMBST	CMBST	NA[a]	NA[a]	NA[a]
K115	LDR-nonwastewater	Nickel	7440-02-0	Determine if waste or residual meets LDR treatment standard	11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	NA	NA	CMBST	CMBST	NA[a]	NA[a]	NA[a]
K116	LDR-nonwastewater	NA	NA	CMBST	CMBST	NA[a]	NA[a]	NA[a]
K117	LDR-nonwastewater	Methyl bromide (Bromomethane)	74-83-9	Determine if waste or residual meets LDR treatment standard	15 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chloroform	67-66-3	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Ethylene dibromide (1,2-Dibromoethane)	106-93-4	Determine if waste or residual meets LDR treatment standard	15 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K118	LDR-nonwastewater	Methyl bromide (Bromomethane)	74-83-9	Determine if waste or residual meets LDR treatment standard	15 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chloroform	67-66-3	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Ethylene dibromide (1,2-Dibromoethane)	106-93-4	Determine if waste or residual meets LDR treatment standard	15 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K123	LDR-nonwastewater	NA	NA	CMBST	CMBST	NA[a]	NA[a]	NA[a]
K124	LDR-nonwastewater	NA	NA	CMBST	CMBST	NA[a]	NA[a]	NA[a]
K125	LDR-nonwastewater	NA	NA	CMBST	CMBST	NA[a]	NA[a]	NA[a]
K126	LDR-nonwastewater	NA	NA	CMBST	CMBST	NA[a]	NA[a]	NA[a]
K131	LDR-nonwastewater	Methyl bromide (Bromomethane)	74-83-9	Determine if waste or residual meets LDR treatment standard	15 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K132	LDR-nonwastewater	Methyl bromide (Bromomethane)	74-83-9	Determine if waste or residual meets LDR treatment standard	15 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K136	LDR-nonwastewater	Methyl bromide (Bromomethane)	74-83-9	Determine if waste or residual meets LDR treatment standard	15 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chloroform	67-66-3	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Ethylene dibromide (1,2-Dibromoethane)	106-93-4	Determine if waste or residual meets LDR treatment standard	15 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K141	LDR-nonwastewater	Benzene	71-43-2	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benz(a)anthracene	56-55-3	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(a)pyrene	50-2-8	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(b)fluoranthene	205-99-2	Determine if waste or residual meets LDR treatment standard	6.8 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(k)fluoranthene	207-08-9	Determine if waste or residual meets LDR treatment standard	6.8 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chrysene	218-01-9	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Dibenz(a,h)anthracene	53-70-3	Determine if waste or residual meets LDR treatment standard	8.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

Table D.2 Land Disposal Restriction Verification

- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
	LDR-nonwastewater	Indeno(1,2,3-c,d)pyrene	193-39-5	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K142	LDR-nonwastewater	Benzene	71-43-2	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benz(a)anthracene	56-55-3	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(a)pyrene	50-2-8	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(b)fluoranthene	205-99-2	Determine if waste or residual meets LDR treatment standard	6.8 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(k)fluoranthene	207-08-9	Determine if waste or residual meets LDR treatment standard	6.8 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chrysene	218-01-9	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Dibenz(a,h)anthracene	53-70-3	Determine if waste or residual meets LDR treatment standard	8.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Indeno(1,2,3-c,d)pyrene	193-39-5	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K143	LDR-nonwastewater	Benzene	71-43-2	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benz(a)anthracene	56-55-3	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(a)pyrene	50-2-8	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(b)fluoranthene	205-99-2	Determine if waste or residual meets LDR treatment standard	6.8 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(k)fluoranthene	207-08-9	Determine if waste or residual meets LDR treatment standard	6.8 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chrysene	218-01-9	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K144	LDR-nonwastewater	Benzene	71-43-2	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benz(a)anthracene	56-55-3	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(a)pyrene	50-2-8	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(b)fluoranthene	205-99-2	Determine if waste or residual meets LDR treatment standard	6.8 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(k)fluoranthene	207-08-9	Determine if waste or residual meets LDR treatment standard	6.8 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chrysene	218-01-9	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Dibenz(a,h)anthracene	53-70-3	Determine if waste or residual meets LDR treatment standard	8.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K145	LDR-nonwastewater	Benzene	71-43-2	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benz(a)anthracene	56-55-3	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(a)pyrene	50-2-8	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chrysene	218-01-9	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

Table D.2 Land Disposal Restriction Verification

- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
	LDR-nonwastewater	Dibenz(a,h)anthracene	53-70-3	Determine if waste or residual meets LDR treatment standard	8.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Naphthalene	91-20-3	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K147	LDR-nonwastewater	Benzene	71-43-2	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benz(a)anthracene	56-55-3	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(a)pyrene	50-2-8	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(b)fluoranthene	205-99-2	Determine if waste or residual meets LDR treatment standard	6.8 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(k)fluoranthene	207-08-9	Determine if waste or residual meets LDR treatment standard	6.8 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chrysene	218-01-9	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Dibenz(a,h)anthracene	53-70-3	Determine if waste or residual meets LDR treatment standard	8.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Indeno(1,2,3-c,d)pyrene	193-39-5	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K148	LDR-nonwastewater	Benz(a)anthracene	56-55-3	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(a)pyrene	50-2-8	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(b)fluoranthene	205-99-2	Determine if waste or residual meets LDR treatment standard	6.8 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(k)fluoranthene	207-08-9	Determine if waste or residual meets LDR treatment standard	6.8 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chrysene	218-01-9	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Dibenz(a,h)anthracene	53-70-3	Determine if waste or residual meets LDR treatment standard	8.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Indeno(1,2,3-c,d)pyrene	193-39-5	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K149	LDR-nonwastewater	Chlorobenzene	108-90-7	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chloroform	67-66-3	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chloromethane	74-87-3	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	p-Dichlorobenzene	106-46-7	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Hexachlorobenzene	118-74-1	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Pentachlorobenzene	608-93-5	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550,8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,2,4,5-Tetrachlorobenzene	95-94-3	Determine if waste or residual meets LDR treatment standard	14 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Toluene	108-88-3	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K150	LDR-nonwastewater	Carbon tetrachloride	56-23-5	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

Table D.2 Land Disposal Restriction Verification

- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
	LDR-nonwastewater	Chloroform	67-66-3	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chloromethane	74-87-3	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	p-Dichlorobenzene	106-46-7	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Hexachlorobenzene	118-74-1	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Pentachlorobenzene	608-93-5	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550,8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,2,4,5-Tetrachlorobenzene	95-94-3	Determine if waste or residual meets LDR treatment standard	14 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,1,2,2-Tetrachloroethane	79-34-5	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Tetrachloroethylene	127-18-4	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,2,4-Trichlorobenzene	120-82-1	Determine if waste or residual meets LDR treatment standard	19 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K151	LDR-nonwastewater	Benzene	71-43-2	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Carbon tetrachloride	56-23-5	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chloroform	67-66-3	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Hexachlorobenzene	118-74-1	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Pentachlorobenzene	608-93-5	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550,8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	1,2,4,5-Tetrachlorobenzene	95-94-3	Determine if waste or residual meets LDR treatment standard	14 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Tetrachloroethylene	127-18-4	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Toluene	108-88-3	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K156	LDR-nonwastewater	Acetonitrile	75-05-8	Determine if waste or residual meets LDR treatment standard	1.8 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Acetophenone	96-86-2	Determine if waste or residual meets LDR treatment standard	9.7 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Aniline	62-53-3	Determine if waste or residual meets LDR treatment standard	14 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benomyl	17804-35-2	CMBST	1.4 mg/kg or CMBST	NA[a]	NA[a]	NA[a]
	LDR-nonwastewater	Benzene	71-43-2	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Carbaryl	63-25-2	Determine if waste or residual meets LDR treatment standard	0.14 mg/kg or CMBST	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Carbendazim	10605-21-7	CMBST	1.4 mg/kg or CMBST	NA[a]	NA[a]	NA[a]
	LDR-nonwastewater	Carbofuran	1563-66-2	Determine if waste or residual meets LDR treatment standard	0.14 mg/kg or CMBST	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Carbosulfan	55285-14-8	Determine if waste or residual meets LDR treatment standard	1.4 mg/kg or CMBST	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chlorobenzene	108-90-7	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

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- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
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- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
	LDR-nonwastewater	Chloroform	67-66-3	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	o-Dichlorobenzene	95-50-1	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Methomyl	16752-77-5	CMBST	0.14 mg/kg or CMBST	NA[a]	NA[a]	NA[a]
	LDR-nonwastewater	Methylene chloride	75-09-2	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Methyl ethyl ketone	78-93-3	Determine if waste or residual meets LDR treatment standard	36 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Naphthalene	91-20-3	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phenol	108-95-2	Determine if waste or residual meets LDR treatment standard	6.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Pyridine	110-86-1	Determine if waste or residual meets LDR treatment standard	16 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW 846 8015, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Toluene	108-88-3	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Triethylamine	121-44-8	Determine if waste or residual meets LDR treatment standard	1.5 mg/kg or CMBST	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 8015	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K157	LDR-nonwastewater	Carbon tetrachloride	56-23-5	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chloroform	67-66-3	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chloromethane	74-87-3	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Methomyl	16752-77-5	CMBST	0.14 mg/kg or CMBST	NA[a]	NA[a]	NA[a]
	LDR-nonwastewater	Methylene Chloride	75-09-2	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Methyl ethyl ketone	78-93-3	Determine if waste or residual meets LDR treatment standard	36 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Pyridine	110-86-1	Determine if waste or residual meets LDR treatment standard	16 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW 846 8015, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Triethylamine	121-44-8	Determine if waste or residual meets LDR treatment standard	1.5 mg/kg or CMBST	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 8015	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K158	LDR-nonwastewater	Benzene	71-43-2	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Carbendazim	10605-21-7	CMBST	1.4 mg/kg or CMBST	NA[a]	NA[a]	NA[a]
	LDR-nonwastewater	Carbofuran	1563-66-2	Determine if waste or residual meets LDR treatment standard	0.14 mg/kg or CMBST	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Carbosulfan	55285-14-8	Determine if waste or residual meets LDR treatment standard	1.4 mg/kg or CMBST	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chloroform	67-66-3	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Methylene chloride	75-09-2	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phenol	108-95-2	Determine if waste or residual meets LDR treatment standard	6.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K159	LDR-nonwastewater	Benzene	71-43-2	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Butylate	2008-41-5	Determine if waste or residual meets LDR treatment standard	1.4 mg/kg or CMBST	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	No onsite method, waste must meet treatment standards or requires third party analysis	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	EPTC (Eptam)	759-94-4	Determine if waste or residual meets LDR treatment standard	1.4 mg/kg or CMBST	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	No onsite method, waste must meet treatment standards or requires third party analysis	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

Table D.2 Land Disposal Restriction Verification

- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
	LDR-nonwastewater	Molinate	2212-67-1	Determine if waste or residual meets LDR treatment standard	1.4 mg/kg or CMBST	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	No onsite method, waste must meet treatment standards or requires third party analysis	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Pebulate	1114-71-2	Determine if waste or residual meets LDR treatment standard	1.4 mg/kg or CMBST	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	No onsite method, waste must meet treatment standards or requires third party analysis	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Vernolate	1929-77-7	Determine if waste or residual meets LDR treatment standard	1.4 mg/kg or CMBST	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	No onsite method, waste must meet treatment standards or requires third party analysis	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K161	LDR-nonwastewater	Antimony	7440-36-0	Determine if waste or residual meets LDR treatment standard	1.15 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Arsenic	7440-38-2	Determine if waste or residual meets LDR treatment standard	5.0 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Carbon disulfide	75-15-0	Determine if waste or residual meets LDR treatment standard	4.8 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Dithiocarbamates (total)	NA	CMBST	28 mg/kg or CMBST	NA[a]	NA[a]	NA[a]
	LDR-nonwastewater	Lead	7439-92-1	Determine if waste or residual meets LDR treatment standard	0.75 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Nickel	7440-02-0	Determine if waste or residual meets LDR treatment standard	11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Selenium	7782-49-2	Determine if waste or residual meets LDR treatment standard	5.7 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K169	LDR-nonwastewater	Benz(a)anthracene	56-55-3	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzene	71-43-2	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(g,h,i)perylene	191-24-2	Determine if waste or residual meets LDR treatment standard	1.8 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chrysene	218-01-9	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Ethyl benzene	100-41-4	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Fluorene	86-73-7	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Naphthalene	91-20-3	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phenanthrene	85-01-8	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Pyrene	129-00-0	Determine if waste or residual meets LDR treatment standard	8.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Toluene (Methyl Benzene)	108-88-3	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Xylene(s) (Total)	1330-20-7	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K170	LDR-nonwastewater	Benz(a)anthracene	56-55-3	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzene	71-43-2	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzo(g,h,i)perylene	191-24-2	Determine if waste or residual meets LDR treatment standard	1.8 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chrysene	218-01-9	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Dibenz(a,h)anthracene	53-70-3	Determine if waste or residual meets LDR treatment standard	8.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

Table D.2 Land Disposal Restriction Verification

- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
	LDR-nonwastewater	Ethyl benzene	100-41-4	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Fluorene	86-73-7	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Indeno(1,2,3-c,d)pyrene	193-39-5	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Naphthalene	91-20-3	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phenanthrene	85-01-8	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Pyrene	129-00-0	Determine if waste or residual meets LDR treatment standard	8.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Toluene (Methyl Benzene)	108-88-3	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Xylene(s) (Total)	1330-20-7	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K171	LDR-nonwastewater	Benz(a)anthracene	56-55-3	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Benzene	71-43-2	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Chrysene	218-01-9	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Ethyl benzene	100-41-4	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Naphthalene	91-20-3	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phenanthrene	85-01-8	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Pyrene	129-00-0	Determine if waste or residual meets LDR treatment standard	8.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Toluene (Methyl Benzene)	108-88-3	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Xylene(s) (Total)	1330-20-7	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Arsenic	7440-38-2	Determine if waste or residual meets LDR treatment standard	5.0 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Nickel	7440-02-0	Determine if waste or residual meets LDR treatment standard	11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Vanadium	7440-62-2	Determine if waste or residual meets LDR treatment standard	1.6 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Reactive sulfides	NA	DEACT	DEACT	NA[a]	NA[a]	NA[a]
K172	LDR-nonwastewater	Benzene	71-43-2	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Ethyl benzene	100-41-4	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Toluene (Methyl Benzene)	108-88-3	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Xylene(s) (Total)	1330-20-7	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Antimony	7440-36-0	Determine if waste or residual meets LDR treatment standard	1.15 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Arsenic	7440-38-2	Determine if waste or residual meets LDR treatment standard	5.0 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

Table D.2 Land Disposal Restriction Verification

- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
	LDR-nonwastewater	Nickel	7440-02-0	Determine if waste or residual meets LDR treatment standard	11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Vanadium	7440-62-2	Determine if waste or residual meets LDR treatment standard	1.6 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Reactive sulfides	NA	DEACT	DEACT	NA[a]	NA[a]	NA[a]
K174	LDR-nonwastewater	1,2,3,4,6,7,8- Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD)	35822-46-9	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.0025 mg/kg. or CMBST	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)	67562-39-4	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.0025 mg/kg or CMBST	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)	55673-89-7	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.0025 mg/kg or CMBST	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	HxCDDs (All Hexachlorodibenzo-p-dioxins)	34465-46-8	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg or CMBST	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	HxCDFs (All Hexachlorodibenzofurans)	55684-94-1	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg or CMBST	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	3268-87-9	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.005 mg/kg. or CMBST	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	39001-02-0	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.005 mg/kg. or CMBST	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	PeCDDs (All Pentachlorodibenzo-p-dioxins)	36088-22-9	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg or CMBST	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	PeCDFs (All Pentachlorodibenzofurans)	30402-15-4	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg or CMBST	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	TCDDs (All Tetachlorodibenzo-p-dioxins)	41903-57-5	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg or CMBST	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	TCDFs (All tetrachlorodibenzofurans)	55722-27-5	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg or CMBST	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	Arsenic	7440-38-2	Determine if waste or residual meets LDR treatment standard	5.0 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K175(Wastewater treatment sludge from the production of vinyl chloride monomer using mercuric chloride catalyst in an acetylene-based process)	LDR-nonwastewater	Mercury	7439-97-6	Determine if waste or residual meets LDR treatment standard	0.025 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 7470, 7473	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	pH	NA	pH less than or equal to 6.0	pH less than or equal to 6.0	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9045	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K175(All K175 wastewaters)	LDR-nonwastewater	Mercury	7438-97-6	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
K176	LDR-nonwastewater	Antimony	7440-36-0	Determine if waste or residual meets LDR treatment standard	1.15 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Arsenic	7440-38-2	Determine if waste or residual meets LDR treatment standard	5.0 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cadmium	7440-43-9	Determine if waste or residual meets LDR treatment standard	0.11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Lead	7439-92-1	Determine if waste or residual meets LDR treatment standard	0.75 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Mercury	7439-97-6	Determine if waste or residual meets LDR treatment standard	0.025 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 7470, 7473	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

Table D.2 Land Disposal Restriction Verification

- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
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- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
K177	LDR-nonwastewater	Antimony	7440-36-0	Determine if waste or residual meets LDR treatment standard	1.15 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Arsenic	7440-38-2	Determine if waste or residual meets LDR treatment standard	5.0 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Lead	7439-92-1	Determine if waste or residual meets LDR treatment standard	0.75 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K178	LDR-nonwastewater	1,2,3,4,6,7,8- Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD)	35822-39-4	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.0025 mg/kg. or CMBST	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)	67562-39-4	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.0025 mg/kg or CMBST	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)	55673-89-7	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.0025 mg/kg or CMBST	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	HxCDDs (All Hexachlorodibenzo-p-dioxins)	34465-46-8	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg or CMBST	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	HxCDFs (All Hexachlorodibenzofurans)	55684-94-1	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg or CMBST	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	1,2,3,4,6,7,8,9- Octachlorodibenzo-p-dioxin (OCDD)	3268-87-9	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.005 mg/kg. or CMBST	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	1,2,3,4,6,7,8,9- Octachlorodibenzofuran (OCDF)	39001-02-0	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.005 mg/kg. or CMBST	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	PeCDDs (All Pentachlorodibenzo-p-dioxins)	36088-22-9	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg or CMBST	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	PeCDFs (All Pentachlorodibenzofurans)	30402-15-4	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg or CMBST	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	TCDDs (All tetrachlorodibenzo-p-dioxins)	41903-57-5	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg or CMBST	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	TCDFs (All tetrachlorodibenzofurans)	55722-27-5	Concentrations must be demonstrated to meet applicable LDR during preapproval. Will only treat if concentration based standard is met prior to treatment.	0.001 mg/kg or CMBST	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	Thallium	7440-28-0	Determine if waste or residual meets LDR treatment standard	0.20 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
K181	LDR-nonwastewater	Aniline	62-53-3	Determine if waste or residual meets LDR treatment standard	14 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	o-Anisidine (2-methoxyaniline)	90-04-0	Determine if waste or residual meets LDR treatment standard	0.66 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	4-Chloroaniline	106-47-8	Determine if waste or residual meets LDR treatment standard	16 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	p-Cresidine	120-71-8	Determine if waste or residual meets LDR treatment standard	0.66 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	2,4-Dimethylaniline (2,4-xylidine)	95-68-1	Concentrations must be demonstrated to meet applicable LDR during preapproval	0.66 mg/kg	NA[c]	NA[c]	NA[c]
	LDR-nonwastewater	1,2-Phenylenediamine	95-54-5	CMBST or CHOXD fb (BIODG or CARBN); or BIODG fb CARBN	CMBST or CHOXD fb (BIODG or CARBN); or BIODG fb CARBN	NA[a]	NA[a]	NA[a]
	LDR-nonwastewater	1,3-Phenylenediamine	108-45-2	Concentrations must be demonstrated to meet applicable LDR during preapproval	0.66 mg/kg	NA[c]	NA[c]	NA[c]
P001	LDR-nonwastewater	Warfarin	81-81-2	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P002	LDR-nonwastewater	1-Acetyl-2-thiourea	591-08-2	CMBST	CMBST	NA[a]	NA[a]	NA[a]

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- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
P003	LDR-nonwastewater	Acrolein	107-02-8	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P004	LDR-nonwastewater	Aldrin	309-00-2	Determine if waste or residual meets LDR treatment standard	0.066 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P005	LDR-nonwastewater	Allyl alcohol	107-18-6	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P006	LDR-nonwastewater	Aluminum phosphide	20859-73-8	CHOXD; CHRED; or CMBST	CHOXD; CHRED; or CMBST	NA[a]	NA[a]	NA[a]
P007	LDR-nonwastewater	5-Aminomethyl 3-isoxazolol	2763-96-4	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P008	LDR-nonwastewater	4-Aminopyridine	504-24-5	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P009	LDR-nonwastewater	Ammonium picrate	131-74-8	CHOXD; CHRED; or CMBST	CHOXD; CHRED; or CMBST	NA[a]	NA[a]	NA[a]
P010	LDR-nonwastewater	Arsenic	7440-38-2	Determine if waste or residual meets LDR treatment standard	5.0 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P011	LDR-nonwastewater	Arsenic	7440-38-2	Determine if waste or residual meets LDR treatment standard	5.0 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P012	LDR-nonwastewater	Arsenic	7440-38-2	Determine if waste or residual meets LDR treatment standard	5.0 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P013	LDR-nonwastewater	Barium	7440-39-3	Determine if waste or residual meets LDR treatment standard	21 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Total)	57-12-5	Determine if waste or residual meets LDR treatment standard	590 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Amenable)	57-12-5	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P014	LDR-nonwastewater	Thiophenol (Benzene thiol)	108-98-5	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P015	LDR-nonwastewater	Beryllium	7440-41-7	RMETL; or RTHRM	RMETL; or RTHRM	NA[a]	NA[a]	NA[a]
P016	LDR-nonwastewater	Dichloromethyl ether	542-88-1	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P017	LDR-nonwastewater	Bromoacetone	598-31-2	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P018	LDR-nonwastewater	Brucine	357-57-3	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P020	LDR-nonwastewater	2-sec-Butyl-4,6-dinitrophenol (Dinoseb)	88-85-7	Determine if waste or residual meets LDR treatment standard	2.5 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P021	LDR-nonwastewater	Cyanides (Total)	57-12-5	Determine if waste or residual meets LDR treatment standard	590 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Amenable)	57-12-5	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P022	LDR-nonwastewater	Carbon disulfide	75-15-0	CMBST	CMBST	NA[a]	NA[a]	NA[a]
	LDR-nonwastewater	Carbon disulfide; alternate standard for nonwastewaters only	75-15-0	Determine if waste or residual meets LDR treatment standard	4.8 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P023	LDR-nonwastewater	Chloroacetaldehyde	107-20-0	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P024	LDR-nonwastewater	p-Chloroaniline	106-47-8	Determine if waste or residual meets LDR treatment standard	16 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P026	LDR-nonwastewater	1-(o-Chlorophenyl)thiourea	5344-82-1	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P027	LDR-nonwastewater	3-Chloropropionitrile	542-76-7	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P028	LDR-nonwastewater	Benzyl chloride	100-44-7	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P029	LDR-nonwastewater	Cyanides (Total)	57-12-5	Determine if waste or residual meets LDR treatment standard	590 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Amenable)	57-12-5	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P030	LDR-nonwastewater	Cyanides (Total)	57-12-5	Determine if waste or residual meets LDR treatment standard	590 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Amenable)	57-12-5	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P031	LDR-nonwastewater	Cyanogen	460-19-5	CHOXD; WETOX; or CMBST	CHOXD; WETOX; or CMBST	NA[a]	NA[a]	NA[a]
P033	LDR-nonwastewater	Cyanogen chloride	506-77-4	CHOXD; WETOX; or CMBST	CHOXD; WETOX; or CMBST	NA[a]	NA[a]	NA[a]
P034	LDR-nonwastewater	2-Cyclohexyl-4,6-dinitrophenol	131-89-5	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P036	LDR-nonwastewater	Arsenic	7440-38-2	Determine if waste or residual meets LDR treatment standard	5.0 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

Table D.2 Land Disposal Restriction Verification

- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
P037	LDR-nonwastewater	Dieldrin	60-57-1	Determine if waste or residual meets LDR treatment standard	0.13 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P038	LDR-nonwastewater	Arsenic	7440-38-2	Determine if waste or residual meets LDR treatment standard	5.0 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P039	LDR-nonwastewater	Disulfoton	298-04-4	Determine if waste or residual meets LDR treatment standard	6.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P040	LDR-nonwastewater	0,0-Diethyl O-pyrazinyl phosphorothioate	297-97-2	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P041	LDR-nonwastewater	Diethyl-p-nitrophenyl phosphate	311-45-5	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P042	LDR-nonwastewater	Epinephrine	51-43-4	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P043	LDR-nonwastewater	Diisopropylfluorophosphate (DFP)	55-91-4	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P044	LDR-nonwastewater	Dimethoate	60-51-5	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P045	LDR-nonwastewater	Thiofanox	39196-18-4	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P046	LDR-nonwastewater	alpha, alpha-Dimethylphenethylamine	122-09-8	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P047	LDR-nonwastewater	4,6-Dinitro-o-cresol	534-52-1	Determine if waste or residual meets LDR treatment standard	160 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	4,6-Dinitro-o-cresol salts	NA	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P048	LDR-nonwastewater	2,4-Dinitrophenol	51-28-5	Determine if waste or residual meets LDR treatment standard	160 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P049	LDR-nonwastewater	Dithiobiuret	541-53-7	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P050	LDR-nonwastewater	Endosulfan I	939-98-8	Determine if waste or residual meets LDR treatment standard	0.066 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Endosulfan II	33213-6-5	Determine if waste or residual meets LDR treatment standard	0.13 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Endosulfan sulfate	1031-07-8	Determine if waste or residual meets LDR treatment standard	0.13 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P051	LDR-nonwastewater	Endrin	72-20-8	Determine if waste or residual meets LDR treatment standard	0.13 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Endrin aldehyde	7421-93-4	Determine if waste or residual meets LDR treatment standard	0.13 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P054	LDR-nonwastewater	Aziridine	151-56-4	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P056	LDR-nonwastewater	Fluoride (measured in wastewaters only)	16984-48-8	ADGAS fb NEUTR	ADGAS fb NEUTR	NA[a]	NA[a]	NA[a]
P057	LDR-nonwastewater	Fluoroacetamide	640-19-7	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P058	LDR-nonwastewater	Fluoroacetic acid, sodium salt	62-74-8	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P059	LDR-nonwastewater	Heptachlor	76-44-8	Determine if waste or residual meets LDR treatment standard	0.066 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Heptachlor epoxide	1024-57-3	Determine if waste or residual meets LDR treatment standard	0.066 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P060	LDR-nonwastewater	Isodrin	465-73-6	Determine if waste or residual meets LDR treatment standard	0.066 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P062	LDR-nonwastewater	Hexaethyl tetraphosphate	757-58-4	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P063	LDR-nonwastewater	Cyanides (Total)	57-12-5	Determine if waste or residual meets LDR treatment standard	590 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Amenable)	57-12-5	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P064	LDR-nonwastewater	Isocyanic acid, ethyl ester	624-83-9	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P065(Mercury fulminate nonwastewaters, regardless of their total mercury content, that are not incinerator residues from RMERC)	LDR-nonwastewater	Mercury	7439-97-6	IMERC	IMERC	NA[a]	NA[a]	NA[a]
P065(Mercury fulminate nonwastewaters, that are either incinerator residues or are residues from RMERC; and contain greater than or equal to 260 mg/kg total mercury)	LDR-nonwastewater	Mercury	7439-97-6	RMERC	RMERC	NA[a]	NA[a]	NA[a]
P065(Mercury fulminate nonwastewaters, that are residues from RMERC and contain less than 260 mg/kg total mercury)	LDR-nonwastewater	Mercury	7439-97-6	Determine if waste or residual meets LDR treatment standard	0.20 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 7470, 7473	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P065(Mercury fulminate nonwastewaters, that are incinerator residues and contain less than 260 mg/kg total mercury)	LDR-nonwastewater	Mercury	7439-97-6	Determine if waste or residual meets LDR treatment standard	0.025 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 7470, 7473	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P065(All mercury fulminate wastewaters)	LDR-nonwastewater	Mercury	7439-97-6	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]

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- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
P066	LDR-nonwastewater	Methomyl	16752-77-5	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P067	LDR-nonwastewater	2-Methyl-aziridine	75-55-8	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P068	LDR-nonwastewater	Methyl hydrazine	60-34-4	CHOXD; CHRED; or CMBST	CHOXD; CHRED; or CMBST	NA[a]	NA[a]	NA[a]
P069	LDR-nonwastewater	2-Methyllactonitrile	75-86-5	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P070	LDR-nonwastewater	Aldicarb	116-06-3	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P071	LDR-nonwastewater	Methyl parathion	298-00-0	Determine if waste or residual meets LDR treatment standard	4.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P072	LDR-nonwastewater	1-Naphthyl-2-thiourea	86-88-4	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P073	LDR-nonwastewater	Nickel	7440-02-0	Determine if waste or residual meets LDR treatment standard	11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P074	LDR-nonwastewater	Cyanides (Total)	57-12-5	Determine if waste or residual meets LDR treatment standard	590 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Amenable)	57-12-5	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Nickel	7440-02-0	Determine if waste or residual meets LDR treatment standard	11 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P075	LDR-nonwastewater	Nicotine and salts	54-11-5	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P076	LDR-nonwastewater	Nitric oxide	10102-43-9	ADGAS	ADGAS	NA[a]	NA[a]	NA[a]
P077	LDR-nonwastewater	p-Nitroaniline	100-01-6	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P078	LDR-nonwastewater	Nitrogen dioxide	10102-44-0	ADGAS	ADGAS	NA[a]	NA[a]	NA[a]
P081	LDR-nonwastewater	Nitroglycerin	55-63-0	CHOXD; CHRED; or CMBST	CHOXD; CHRED; or CMBST	NA[a]	NA[a]	NA[a]
P082	LDR-nonwastewater	N-Nitrosodimethylamine	62-75-9	Determine if waste or residual meets LDR treatment standard	2.3 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P084	LDR-nonwastewater	N-Nitrosomethylvinylamine	4549-40-0	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P085	LDR-nonwastewater	Octamethylpyrophosphoramide	152-16-9	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P087	LDR-nonwastewater	Osmium tetroxide	20816-12-0	RMETL; or RTHRM	RMETL; or RTHRM	NA[a]	NA[a]	NA[a]
P088	LDR-nonwastewater	Endothall	145-73-3	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P089	LDR-nonwastewater	Parathion	56-38-2	Determine if waste or residual meets LDR treatment standard	4.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P092(Phenyl mercuric acetate nonwastewaters, regardless of their total mercury content, that are not incinerator residues from RMERC)	LDR-nonwastewater	Mercury	7439-97-6	IMERC; or RMERC	IMERC; or RMERC	NA[a]	NA[a]	NA[a]
P092(Phenyl mercuric acetate nonwastewaters, that are either incinerator residues or are residues from RMERC; and still contain greater than or equal to 260 mg/kg total mercury)	LDR-nonwastewater	Mercury	7439-97-6	RMERC	RMERC	NA[a]	NA[a]	NA[a]
P092(Phenyl mercuric acetate nonwastewaters, that are residues from RMERC and contain less than 260 mg/kg total mercury)	LDR-nonwastewater	Mercury	7439-97-6	Determine if waste or residual meets LDR treatment standard	0.20 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 7470, 7473	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P092(Phenyl mercuric acetate nonwastewaters, that are incinerator residues and contain less than 260 mg/kg total mercury)	LDR-nonwastewater	Mercury	7439-97-6	Determine if waste or residual meets LDR treatment standard	0.025 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 7470, 7473	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P092(All phenyl mercuric acetate wastewaters)	LDR-nonwastewater	Mercury	7439-97-6	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
P093	LDR-nonwastewater	Phenylthiourea	103-85-5	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P094	LDR-nonwastewater	Phorate	298-02-2	Determine if waste or residual meets LDR treatment standard	4.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P095	LDR-nonwastewater	Phosgene	75-44-5	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P096	LDR-nonwastewater	Phosphine	7803-51-2	CHOXD; CHRED; or CMBST	CHOXD; CHRED; or CMBST	NA[a]	NA[a]	NA[a]
P097	LDR-nonwastewater	Famphur	52-85-7	Determine if waste or residual meets LDR treatment standard	15 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P098	LDR-nonwastewater	Cyanides (Total)	57-12-5	Determine if waste or residual meets LDR treatment standard	590 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Amenable)	57-12-5	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P099	LDR-nonwastewater	Cyanides (Total)	57-12-5	Determine if waste or residual meets LDR treatment standard	590 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

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- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
	LDR-nonwastewater	Cyanides (Amenable)	57-12-5	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Silver	7440-22-4	Determine if waste or residual meets LDR treatment standard	0.14 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P101	LDR-nonwastewater	Ethyl cyanide (Propanenitrile)	107-12-0	Determine if waste or residual meets LDR treatment standard	360 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P102	LDR-nonwastewater	Propargyl alcohol	107-19-7	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P103	LDR-nonwastewater	Selenium	7782-49-2	Determine if waste or residual meets LDR treatment standard	5.7 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P104	LDR-nonwastewater	Cyanides (Total)	57-12-5	Determine if waste or residual meets LDR treatment standard	590 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Amenable)	57-12-5	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Silver	7440-22-4	Determine if waste or residual meets LDR treatment standard	0.14 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P105	LDR-nonwastewater	Sodium azide	26628-22-8	CHOXD; CHRED; or CMBST	CHOXD; CHRED; or CMBST	NA[a]	NA[a]	NA[a]
P106	LDR-nonwastewater	Cyanides (Total)	57-12-5	Determine if waste or residual meets LDR treatment standard	590 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Amenable)	57-12-5	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P108	LDR-nonwastewater	Strychnine and salts	57-24-9	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P109	LDR-nonwastewater	Tetraethyldithiopyrophosphate	3689-24-5	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P110	LDR-nonwastewater	Lead	7439-92-1	Determine if waste or residual meets LDR treatment standard	0.75 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P111	LDR-nonwastewater	Tetraethylpyrophosphate	107-49-3	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P112	LDR-nonwastewater	Tetranitromethane	509-14-8	CHOXD; CHRED; or CMBST	CHOXD; CHRED; or CMBST	NA[a]	NA[a]	NA[a]
P113	LDR-nonwastewater	Thallium (measured in wastewaters only)	7440-28-0	RTHRM; or STABL	RTHRM; or STABL	NA[a]	NA[a]	NA[a]
P114	LDR-nonwastewater	Selenium	7782-49-2	Determine if waste or residual meets LDR treatment standard	5.7 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P115	LDR-nonwastewater	Thallium (measured in wastewaters only)	7440-28-0	RTHRM; or STABL	RTHRM; or STABL	NA[a]	NA[a]	NA[a]
P116	LDR-nonwastewater	Thiosemicarbazide	79-19-6	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P118	LDR-nonwastewater	Trichloromethanethiol	75-70-7	CMBST	CMBST	NA[a]	NA[a]	NA[a]
P119	LDR-nonwastewater	Vanadium (measured in wastewaters only)	7440-62-2	STABL	STABL	NA[a]	NA[a]	NA[a]
P120	LDR-nonwastewater	Vanadium (measured in wastewaters only)	7440-62-2	STABL	STABL	NA[a]	NA[a]	NA[a]
P121	LDR-nonwastewater	Cyanides (Total)	57-12-5	Determine if waste or residual meets LDR treatment standard	590 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cyanides (Amenable)	57-12-5	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 9010, 9014	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P122	LDR-nonwastewater	Zinc Phosphide	1314-84-7	CHOXD; CHRED; or CMBST	CHOXD; CHRED; or CMBST	NA[a]	NA[a]	NA[a]
P123	LDR-nonwastewater	Toxaphene	8001-35-2	Determine if waste or residual meets LDR treatment standard	2.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P127	LDR-nonwastewater	Carbofuran	1563-66-2	Determine if waste or residual meets LDR treatment standard	0.14 mg/kg or CMBST	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P128	LDR-nonwastewater	Mexacarbate	315-18-4	CMBST	0.14 mg/kg or CMBST.	NA[a]	NA[a]	NA[a]
P185	LDR-nonwastewater	Tirpate	26419-73-8	CMBST	0.28 mg/kg or CMBST.	NA[a]	NA[a]	NA[a]
P188	LDR-nonwastewater	Physostigmine salicylate	57-64-7	CMBST	1.4 mg/kg or CMBST.	NA[a]	NA[a]	NA[a]
P189	LDR-nonwastewater	Carbosulfan	55285-14-8	Determine if waste or residual meets LDR treatment standard	1.4 mg/kg or CMBST	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
P190	LDR-nonwastewater	Metolcarb	1129-41-5	CMBST	1.4 mg/kg or CMBST.	NA[a]	NA[a]	NA[a]
P191	LDR-nonwastewater	Dimetilan	644-64-4	CMBST	1.4 mg/kg or CMBST.	NA[a]	NA[a]	NA[a]
P192	LDR-nonwastewater	Isolan	119-38-0	CMBST	1.4 mg/kg or CMBST.	NA[a]	NA[a]	NA[a]
P194	LDR-nonwastewater	Oxamyl	23135-22-0	CMBST	0.28 mg/kg or CMBST.	NA[a]	NA[a]	NA[a]

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- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
P196	LDR-nonwastewater	Dithiocarbamates (total)	NA	CMBST	28 mg/kg or CMBST.	NA[a]	NA[a]	NA[a]
P197	LDR-nonwastewater	Formparante	17702-57-7	CMBST	1.4 mg/kg or CMBST.	NA[a]	NA[a]	NA[a]
P198	LDR-nonwastewater	Formetanate hydrochloride	23422-53-9	CMBST	1.4 mg/kg or CMBST.	NA[a]	NA[a]	NA[a]
P199	LDR-nonwastewater	Methiocarb	2032-65-7	CMBST	1.4 mg/kg or CMBST.	NA[a]	NA[a]	NA[a]
P201	LDR-nonwastewater	Promecarb	2631-37-0	CMBST	1.4 mg/kg or CMBST.	NA[a]	NA[a]	NA[a]
P202	LDR-nonwastewater	m-Cumenyl methylcarbamate	64-00-6	CMBST	1.4 mg/kg or CMBST.	NA[a]	NA[a]	NA[a]
P203	LDR-nonwastewater	Aldicarb sulfone	1646-88-4	CMBST	0.28 mg/kg or CMBST.	NA[a]	NA[a]	NA[a]
P204	LDR-nonwastewater	Physostigmine	57-47-6	CMBST	1.4 mg/kg or CMBST.	NA[a]	NA[a]	NA[a]
P205	LDR-nonwastewater	Dithiocarbamates (total)	NA	CMBST	28 mg/kg or CMBST.	NA[a]	NA[a]	NA[a]
U001	LDR-nonwastewater	Acetaldehyde	75-07-0	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U002	LDR-nonwastewater	Acetone	67-64-1	Determine if waste or residual meets LDR treatment standard	160 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U003	LDR-nonwastewater	Acetonitrile	75-05-8	CMBST	CMBST	NA[a]	NA[a]	NA[a]
	LDR-nonwastewater	Acetonitrile; alternate standard for nonwastewaters only	75-05-8	Determine if waste or residual meets LDR treatment standard	38 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U004	LDR-nonwastewater	Acetophenone	96-86-2	Determine if waste or residual meets LDR treatment standard	9.7 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U005	LDR-nonwastewater	2-Acetylaminofluorene	53-96-3	Determine if waste or residual meets LDR treatment standard	140 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U006	LDR-nonwastewater	Acetyl Chloride	75-36-5	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U007	LDR-nonwastewater	Acrylamide	79-06-1	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U008	LDR-nonwastewater	Acrylic acid	79-10-7	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U009	LDR-nonwastewater	Acrylonitrile	107-13-1	Determine if waste or residual meets LDR treatment standard	84 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U010	LDR-nonwastewater	Mitomycin C	50-07-7	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U011	LDR-nonwastewater	Amitrole	61-82-5	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U012	LDR-nonwastewater	Aniline	62-53-3	Determine if waste or residual meets LDR treatment standard	14 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U014	LDR-nonwastewater	Auramine	492-80-8	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U015	LDR-nonwastewater	Azaserine	115-02-6	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U016	LDR-nonwastewater	Benz(c)acridine	225-51-4	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U017	LDR-nonwastewater	Benzal chloride	98-87-3	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U018	LDR-nonwastewater	Benz(a)anthracene	56-55-3	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U019	LDR-nonwastewater	Benzene	71-43-2	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U020	LDR-nonwastewater	Benzenesulfonyl chloride	98-09-9	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U021	LDR-nonwastewater	Benzidine	92-87-5	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U022	LDR-nonwastewater	Benzo(a)pyrene	50-32-8	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U023	LDR-nonwastewater	Benzotrichloride	98-07-7	CHOCS; CHRED; or CMBST	CHOCS; CHRED; or CMBST	NA[a]	NA[a]	NA[a]
U024	LDR-nonwastewater	bis(2)Chloroethoxy)methane	111-91-1	Determine if waste or residual meets LDR treatment standard	7.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U025	LDR-nonwastewater	bis(2-Chloroethyl)ether	111-44-4	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U026	LDR-nonwastewater	Chlornaphazine	494-03-1	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U027	LDR-nonwastewater	bis(2-Chloroisopropyl)ether	39638-32-9	Determine if waste or residual meets LDR treatment standard	7.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U028	LDR-nonwastewater	bis(2-Ethylhexyl)phthalate	117-81-7	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U029	LDR-nonwastewater	Methyl bromide (Bromomethane)	74-83-9	Determine if waste or residual meets LDR treatment standard	15 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U030	LDR-nonwastewater	4-Bromophenyl phenyl ether	101-55-3	Determine if waste or residual meets LDR treatment standard	15 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U031	LDR-nonwastewater	n-Butyl alcohol	71-36-3	Determine if waste or residual meets LDR treatment standard	2.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

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- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
U032	LDR-nonwastewater	Chromium (Total)	7440-47-3	Determine if waste or residual meets LDR treatment standard	0.60 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U033	LDR-nonwastewater	Carbon oxyfluoride	353-50-4	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U034	LDR-nonwastewater	Trichloroacetaldehyde (Chloral)	75-87-6	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U035	LDR-nonwastewater	Chlorambucil	305-03-3	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U036	LDR-nonwastewater	Chlordane(alpha and gamma isomers)	57-74-9	Determine if waste or residual meets LDR treatment standard	0.26 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U037	LDR-nonwastewater	Chlorobenzene	108-90-7	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U038	LDR-nonwastewater	Chlorobenzilate	510-15-6	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U039	LDR-nonwastewater	p-Chloro-m-cresol	59-50-7	Determine if waste or residual meets LDR treatment standard	14 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U041	LDR-nonwastewater	Epichlorohydrin (1-Chloro-2,3-epoxypropane)	106-89-8	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U042	LDR-nonwastewater	2-Chloroethyl vinyl ether	110-75-8	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U043	LDR-nonwastewater	Vinyl chloride	75-01-4	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U044	LDR-nonwastewater	Chloroform	67-66-3	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U045	LDR-nonwastewater	Chloromethane (Methyl chloride)	74-87-3	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U046	LDR-nonwastewater	Chloromethyl methyl ether	107-30-2	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U047	LDR-nonwastewater	2-Chloronaphthalene	91-58-7	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U048	LDR-nonwastewater	2-Chlorophenol	95-57-8	Determine if waste or residual meets LDR treatment standard	5.7 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U049	LDR-nonwastewater	4-Chloro-o-toluidine hydrochloride	3165-93-3	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U050	LDR-nonwastewater	Chrysene	218-01-9	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U051	LDR-nonwastewater	Naphthalene	91-20-3	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Pentachlorophenol	87-86-5	Determine if waste or residual meets LDR treatment standard	7.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8151, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phenanthrene	85-01-8	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Pyrene	129-00-0	Determine if waste or residual meets LDR treatment standard	8.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Toluene	108-88-3	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)	1330-20-7	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Lead	7439-92-1	Determine if waste or residual meets LDR treatment standard	0.75 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U052	LDR-nonwastewater	o-Cresol	95-48-7	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	m-Cresol (difficult to distinguish from p-cresol)	108-39-4	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	p-Cresol (difficult to distinguish from m-cresol)	106-44-5	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Cresol-mixed isomers (Cresylic acid) (sum of o- m-, and p-cresol concentrations)	1319-77-3	Determine if waste or residual meets LDR treatment standard	11.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U053	LDR-nonwastewater	Crotonaldehyde	4170-30-3	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U055	LDR-nonwastewater	Cumene	98-82-8	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U056	LDR-nonwastewater	Cyclohexane	110-82-7	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U057	LDR-nonwastewater	Cyclohexanone	108-94-1	CMBST	CMBST	NA[a]	NA[a]	NA[a]

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- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
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- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
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- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
	LDR-nonwastewater	Cyclohexanone; alternate standard for nonwastewaters only	108-94-1	Determine if waste or residual meets LDR treatment standard	0.75 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 8315	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U058	LDR-nonwastewater	Cyclophosphamide	50-18-0	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U059	LDR-nonwastewater	Daunomycin	20830-81-3	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U060	LDR-nonwastewater	o,p'-DDD	53-19-0	Determine if waste or residual meets LDR treatment standard	0.087 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	p,p'-DDD	72-54-8	Determine if waste or residual meets LDR treatment standard	0.087 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U061	LDR-nonwastewater	o,p'-DDT	789-02-6	Determine if waste or residual meets LDR treatment standard	0.087 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	p,p'-DDT	50-29-3	Determine if waste or residual meets LDR treatment standard	0.087 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	o,p'-DDD	53-19-0	Determine if waste or residual meets LDR treatment standard	0.087 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	p,p'-DDD	72-54-8	Determine if waste or residual meets LDR treatment standard	0.087 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	o,p'-DDE	3424-82-6	Determine if waste or residual meets LDR treatment standard	0.087 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	p,p'-DDE	72-55-9	Determine if waste or residual meets LDR treatment standard	0.087 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U062	LDR-nonwastewater	Diallate	2303-16-4	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U063	LDR-nonwastewater	Dibenz(a,h)anthracene	53-70-3	Determine if waste or residual meets LDR treatment standard	8.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U064	LDR-nonwastewater	Dibenz(a,i)pyrene	189-55-9	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U066	LDR-nonwastewater	1,2-Dibromo-3-chloropropane	96-12-8	Determine if waste or residual meets LDR treatment standard	15 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U067	LDR-nonwastewater	Ethylene dibromide (1,2-Dibromoethane)	106-93-4	Determine if waste or residual meets LDR treatment standard	15 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U068	LDR-nonwastewater	Dibromomethane	74-95-3	Determine if waste or residual meets LDR treatment standard	15 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U069	LDR-nonwastewater	Di-n-butyl phthalate	84-74-2	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U070	LDR-nonwastewater	o-Dichlorobenzene	95-50-1	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U071	LDR-nonwastewater	m-Dichlorobenzene	541-73-1	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550,8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U072	LDR-nonwastewater	p-Dichlorobenzene	106-46-7	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U073	LDR-nonwastewater	3,3'-Dichlorobenzidine	91-94-1	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U074	LDR-nonwastewater	cis,1,4-Dichloro-2-butene	1476-11-5	CMBST	CMBST	NA[a]	NA[a]	NA[a]
	LDR-nonwastewater	trans-1,4-Dichloro-2-butene	764-41-0	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U075	LDR-nonwastewater	Dichlorodifluoromethane	75-71-8	Determine if waste or residual meets LDR treatment standard	7.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U076	LDR-nonwastewater	1,1-Dichloroethane	75-34-3	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U077	LDR-nonwastewater	1,2-Dichloroethane	107-06-2	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U078	LDR-nonwastewater	1,1-Dichloroethylene	75-35-4	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U079	LDR-nonwastewater	trans-1,2-Dichloroethylene	156-60-5	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U080	LDR-nonwastewater	Methylene chloride	75-09-2	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

Table D.2 Land Disposal Restriction Verification

- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
U081	LDR-nonwastewater	2,4-Dichlorophenol	120-83-2	Determine if waste or residual meets LDR treatment standard	14 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U082	LDR-nonwastewater	2,6-Dichlorophenol	87-65-0	Determine if waste or residual meets LDR treatment standard	14 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U083	LDR-nonwastewater	1,2-Dichloropropane	78-87-5	Determine if waste or residual meets LDR treatment standard	18 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U084	LDR-nonwastewater	cis-1,3-Dichloropropylene	10061-01-5	Determine if waste or residual meets LDR treatment standard	18 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	trans-1,3-Dichloropropylene	10061-02-6	Determine if waste or residual meets LDR treatment standard	18 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U085	LDR-nonwastewater	1,2,3,4-Diepoxybutane	1464-53-5	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U086	LDR-nonwastewater	N,N'-Diethylhydrazine	1615-80-1	CHOXD; CHRED; or CMBST	CHOXD; CHRED; or CMBST	NA[a]	NA[a]	NA[a]
U087	LDR-nonwastewater	O,O-Diethyl S-methyldithiophosphate	3288-58-2	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U088	LDR-nonwastewater	Diethyl phthalate	84-66-2	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U089	LDR-nonwastewater	Diethyl stilbestrol	56-53-1	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U090	LDR-nonwastewater	Dihydrosafrole	94-58-6	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U091	LDR-nonwastewater	3,3'-Dimethoxybenzidine	119-90-4	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U092	LDR-nonwastewater	Dimethylamine	124-40-3	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U093	LDR-nonwastewater	p-Dimethylaminoazobenzene	60-11-7	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U094	LDR-nonwastewater	7,12-Dimethylbenz(a)anthracene	57-97-6	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U095	LDR-nonwastewater	3,3'-Dimethylbenzidine	119-93-7	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U096	LDR-nonwastewater	alpha, alpha-Dimethyl benzyl hydroperoxide	80-15-9	CHOXD, CHRED; or CMBST	CHOXD, CHRED; or CMBST	NA[a]	NA[a]	NA[a]
U097	LDR-nonwastewater	Dimethylcarbamoyl chloride	79-44-7	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U098	LDR-nonwastewater	1,1-Dimethylhydrazine	57-14-7	CHOXD; CHRED; or CMBST	CHOXD; CHRED; or CMBST	NA[a]	NA[a]	NA[a]
U099	LDR-nonwastewater	1,2-Dimethylhydrazine	540-73-8	CHOXD; CHRED; or CMBST	CHOXD; CHRED; or CMBST	NA[a]	NA[a]	NA[a]
U101	LDR-nonwastewater	2,4-Dimethyl phenol	105-67-9	Determine if waste or residual meets LDR treatment standard	14 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U102	LDR-nonwastewater	Dimethyl phthalate	131-11-3	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U103	LDR-nonwastewater	Dimethyl sulfate	77-78-1	CHOXD; CHRED; or CMBST	CHOXD; CHRED; or CMBST	NA[a]	NA[a]	NA[a]
U105	LDR-nonwastewater	2,4-Dinitrotoluene	121-14-2	Determine if waste or residual meets LDR treatment standard	140 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U106	LDR-nonwastewater	2,6-Dinitrotoluene	606-20-2	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U107	LDR-nonwastewater	Di-n-octyl phthalate	117-84-0	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U108	LDR-nonwastewater	1,4-Dioxane	123-91-1	CMBST	CMBST	NA[a]	NA[a]	NA[a]
	LDR-nonwastewater	1,4-Dioxane, alternate	123-91-1	Determine if waste or residual meets LDR treatment standard	170 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 8015, 8260, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U109	LDR-nonwastewater	1,2-Diphenylhydrazine	122-66-7	CHOXD; CHRED; or CMBST	CHOXD; CHRED; or CMBST	NA[a]	NA[a]	NA[a]
U110	LDR-nonwastewater	Dipropylamine	142-84-7	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U111	LDR-nonwastewater	Di-n-propylnitrosamine	621-64-7	Determine if waste or residual meets LDR treatment standard	14 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U112	LDR-nonwastewater	Ethyl acetate	141-78-6	Determine if waste or residual meets LDR treatment standard	33 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U113	LDR-nonwastewater	Ethyl acrylate	140-88-5	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U114	LDR-nonwastewater	Ethylenebisdithiocarbamic acid	111-54-6	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U115	LDR-nonwastewater	Ethylene oxide	75-21-8	CHOXD; or CMBST	CHOXD; or CMBST	NA[a]	NA[a]	NA[a]
U116	LDR-nonwastewater	Ethylene thiourea	96-45-7	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U117	LDR-nonwastewater	Ethyl ether	60-29-7	Determine if waste or residual meets LDR treatment standard	160 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

Table D.2 Land Disposal Restriction Verification

- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
U118	LDR-nonwastewater	Ethyl methacrylate	97-63-2	Determine if waste or residual meets LDR treatment standard	160 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U119	LDR-nonwastewater	Ethyl methane sulfonate	62-50-0	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U120	LDR-nonwastewater	Fluoranthene	206-44-0	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U121	LDR-nonwastewater	Trichlorofluoromethane	75-69-4	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U122	LDR-nonwastewater	Formaldehyde	50-00-0	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U123	LDR-nonwastewater	Formic acid	64-18-6	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U124	LDR-nonwastewater	Furan	110-00-9	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U125	LDR-nonwastewater	Furfural	98-01-1	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U126	LDR-nonwastewater	Glycidylaldehyde	765-34-4	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U127	LDR-nonwastewater	Hexachlorobenzene	118-74-1	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U128	LDR-nonwastewater	Hexachlorobutadiene	87-68-3	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U129	LDR-nonwastewater	alpha-BHC	319-84-6	Determine if waste or residual meets LDR treatment standard	0.066 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	beta-BHC	319-85-7	Determine if waste or residual meets LDR treatment standard	0.066 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	delta-BHC	319-86-8	Determine if waste or residual meets LDR treatment standard	0.066 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	gamma-BHC (Lindane)	58-89-9	Determine if waste or residual meets LDR treatment standard	0.066 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U130	LDR-nonwastewater	Hexachlorocyclopentadiene	77-47-4	Determine if waste or residual meets LDR treatment standard	2.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U131	LDR-nonwastewater	Hexachloroethane	67-72-1	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U132	LDR-nonwastewater	Hexachlorophene	70-30-4	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U133	LDR-nonwastewater	Hydrazine	302-01-2	CHOXD; CHRED; or CMBST	CHOXD; CHRED; or CMBST	NA[a]	NA[a]	NA[a]
U134	LDR-nonwastewater	Hydrogen Fluoride	7664-39-3	ADGAS fb NEUTR; or NEUTR	ADGAS fb NEUTR; or NEUTR	NA[a]	NA[a]	NA[a]
U135	LDR-nonwastewater	Hydrogen Sulfide	7783-06-4	CHOXD; CHRED; or CMBST	CHOXD; CHRED; or CMBST	NA[a]	NA[a]	NA[a]
U136	LDR-nonwastewater	Arsenic	7440-38-2	Determine if waste or residual meets LDR treatment standard	5.0 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U137	LDR-nonwastewater	Indeno(1,2,3-c,d)pyrene	193-39-5	Determine if waste or residual meets LDR treatment standard	3.4 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U138	LDR-nonwastewater	Iodomethane	74-88-4	Determine if waste or residual meets LDR treatment standard	65 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U140	LDR-nonwastewater	Isobutyl alcohol	78-83-1	Determine if waste or residual meets LDR treatment standard	170 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U141	LDR-nonwastewater	Isosafrole	120-58-1	Determine if waste or residual meets LDR treatment standard	2.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U142	LDR-nonwastewater	Kepone	143-50-8	Determine if waste or residual meets LDR treatment standard	0.13 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U143	LDR-nonwastewater	Lasiocarpine	303-34-4	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U144	LDR-nonwastewater	Lead	7439-92-1	Determine if waste or residual meets LDR treatment standard	0.75 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U145	LDR-nonwastewater	Lead	7439-92-1	Determine if waste or residual meets LDR treatment standard	0.75 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U146	LDR-nonwastewater	Lead	7439-92-1	Determine if waste or residual meets LDR treatment standard	0.75 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U147	LDR-nonwastewater	Maleic anhydride	108-31-6	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U148	LDR-nonwastewater	Maleic hydrazide	123-33-1	CMBST	CMBST	NA[a]	NA[a]	NA[a]

Table D.2 Land Disposal Restriction Verification

- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
U149	LDR-nonwastewater	Malononitrile	109-77-3	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U150	LDR-nonwastewater	Malphalan	148-82-3	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U151(mercury nonwastewaters that container greater than or equal to 260 mg/kg total mercury)	LDR-nonwastewater	Mercury	7439-97-6	RMERC	RMERC	NA[a]	NA[a]	NA[a]
U151(mercury nonwastewaters that container less than 260 mg/kg total mercury and that are residues from RMERC only)	LDR-nonwastewater	Mercury	7439-97-6	Determine if waste or residual meets LDR treatment standard	0.20 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 7470, 7473	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U151(mercury nonwastewaters that container less than 260 mg/kg total mercury and that are not residues from RMERC)	LDR-nonwastewater	Mercury	7439-97-6	Determine if waste or residual meets LDR treatment standard	0.025 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 7470, 7473	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U151(all U151 mercury wastewaters)	LDR-nonwastewater	Mercury	7439-97-6	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
U151(Elemental mercury contaminated with radioactive materials)	LDR-nonwastewater	Mercury	7439-97-6	AMLGM	AMLGM	NA[a]	NA[a]	NA[a]
U152	LDR-nonwastewater	Methacrylonitrile	126-98-7	Determine if waste or residual meets LDR treatment standard	84 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U153	LDR-nonwastewater	Methanethiol	74-93-1	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U154	LDR-nonwastewater	Methanol	67-56-1	CMBST	CMBST	NA[a]	NA[a]	NA[a]
	LDR-nonwastewater	Methanol; alternate set of standards for both wastewaters and nonwastewaters	67-56-1	Determine if waste or residual meets LDR treatment standard	0.75 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 8015	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U155	LDR-nonwastewater	Methapyrilene	91-80-5	Determine if waste or residual meets LDR treatment standard	1.5 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U156	LDR-nonwastewater	Methyl chlorocarbonate	79-22-1	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U157	LDR-nonwastewater	3-Methylcholanthrene	56-49-5	Determine if waste or residual meets LDR treatment standard	15 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U158	LDR-nonwastewater	4,4′-Methylene bis(2-chloroaniline)	101-14-4	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U159	LDR-nonwastewater	Methyl ethyl ketone	78-93-3	Determine if waste or residual meets LDR treatment standard	36 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U160	LDR-nonwastewater	Methyl ethyl ketone peroxide	1338-23-4	CHOXD; CHRED; or CMBST	CHOXD; CHRED; or CMBST	NA[a]	NA[a]	NA[a]
U161	LDR-nonwastewater	Methyl isobutyl ketone	108-10-1	Determine if waste or residual meets LDR treatment standard	33 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U162	LDR-nonwastewater	Methyl methacrylate	80-62-6	Determine if waste or residual meets LDR treatment standard	160 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U163	LDR-nonwastewater	N-Methyl N′-nitro N-nitrosoguanidine	70-25-7	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U164	LDR-nonwastewater	N-Methyl N′-nitro N-nitrosoguanidine	70-25-7	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U165	LDR-nonwastewater	Naphthalene	91-20-3	Determine if waste or residual meets LDR treatment standard	5.6 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U166	LDR-nonwastewater	1,4-Naphthoquinone	130-15-4	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U167	LDR-nonwastewater	1-Naphthylamine	134-32-7	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U168	LDR-nonwastewater	2-Naphthylamine	91-59-8	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U169	LDR-nonwastewater	Nitrobenzene	98-95-3	Determine if waste or residual meets LDR treatment standard	14 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U170	LDR-nonwastewater	p-Nitrophenol	100-02-7	Determine if waste or residual meets LDR treatment standard	29 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U171	LDR-nonwastewater	2-Nitropropane	79-46-9	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U172	LDR-nonwastewater	N-Nitrosodi-n-butylamine	924-16-3	Determine if waste or residual meets LDR treatment standard	17 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U173	LDR-nonwastewater	N-Nitrosodiethanolamine	1116-54-7	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U174	LDR-nonwastewater	N-Nitrosodiethylamine	55-18-5	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U176	LDR-nonwastewater	N-Nitroso-N-ethylurea	759-73-9	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U177	LDR-nonwastewater	N-Nitroso-N-methylurea	684-93-5	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U178	LDR-nonwastewater	N-Nitroso-N-methylurethane	615-53-2	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U179	LDR-nonwastewater	N-Nitrosopiperidine	100-75-4	Determine if waste or residual meets LDR treatment standard	35 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U180	LDR-nonwastewater	N-Nitrosopyrrolidine	930-55-2	Determine if waste or residual meets LDR treatment standard	35 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment

Table D.2 Land Disposal Restriction Verification

- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
U181	LDR-nonwastewater	5-Nitro-o-toluidine	99-55-8	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U182	LDR-nonwastewater	Paraldehyde	123-63-7	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U183	LDR-nonwastewater	Pentachlorobenzene	608-93-5	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550,8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U184	LDR-nonwastewater	Pentachloroethane	76-01-7	CMBST	CMBST	NA[a]	NA[a]	NA[a]
	LDR-nonwastewater	Pentachloroethane; alternate standards for both wastewaters and nonwastewaters	76-01-7	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U185	LDR-nonwastewater	Pentachloronitrobenzene	82-68-8	Determine if waste or residual meets LDR treatment standard	4.8 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U186	LDR-nonwastewater	1,3-Pentadiene	504-60-9	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U187	LDR-nonwastewater	Phenacetin	62-44-2	Determine if waste or residual meets LDR treatment standard	16 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U188	LDR-nonwastewater	Phenol	108-95-2	Determine if waste or residual meets LDR treatment standard	6.2 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270, 8041	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U189	LDR-nonwastewater	Phosphorus sulfide	1314-80-3	CHOXd; CHRED; or CMBST	CHOXd; CHRED; or CMBST	NA[a]	NA[a]	NA[a]
U190	LDR-nonwastewater	Phthalic anhydride (measured as Phthalic acid or Terephthalic acid)	100-21-0	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	Phthalic anhydride (measured as Phthalic acid or Terephthalic acid)	85-44-9	Determine if waste or residual meets LDR treatment standard	28 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U191	LDR-nonwastewater	2-Picoline	109-06-8	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U192	LDR-nonwastewater	Pronamide	23950-58-5	Determine if waste or residual meets LDR treatment standard	1.5 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U193	LDR-nonwastewater	1,3-Propane sultone	1120-71-4	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U194	LDR-nonwastewater	n-Propylamine	107-10-8	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U196	LDR-nonwastewater	Pyridine	110-86-1	Determine if waste or residual meets LDR treatment standard	16 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW 846 8015, 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U197	LDR-nonwastewater	p-Benzoquinone	106-51-4	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U200	LDR-nonwastewater	Reserpine	50-55-5	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U201	LDR-nonwastewater	Resorcinol	108-46-3	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U203	LDR-nonwastewater	Safrole	94-59-7	Determine if waste or residual meets LDR treatment standard	22 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U204	LDR-nonwastewater	Selenium	7782-49-2	Determine if waste or residual meets LDR treatment standard	5.7 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U205	LDR-nonwastewater	Selenium	7782-49-2	Determine if waste or residual meets LDR treatment standard	5.7 mg/L TCLP	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 1311, 3015, 6010	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U206	LDR-nonwastewater	Streptozotocin	18883-66-4	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U207	LDR-nonwastewater	1,2,4,5-Tetrachlorobenzene	95-94-3	Determine if waste or residual meets LDR treatment standard	14 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U208	LDR-nonwastewater	1,1,1,2-Tetrachloroethane	630-20-6	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U209	LDR-nonwastewater	1,1,2,2-Tetrachloroethane	79-34-5	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U210	LDR-nonwastewater	Tetrachloroethylene	127-18-4	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U211	LDR-nonwastewater	Carbon tetrachloride	56-23-5	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U213	LDR-nonwastewater	Tetrahydrofuran	109-99-9	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U214	LDR-nonwastewater	Thallium (measured in wastewaters only)	7440-28-0	RTHRM; or STABL	RTHRM; or STABL	NA[a]	NA[a]	NA[a]
U215	LDR-nonwastewater	Thallium (measured in wastewaters only)	7440-28-0	RTHRM; or STABL	RTHRM; or STABL	NA[a]	NA[a]	NA[a]
U216	LDR-nonwastewater	Thallium (measured in wastewaters only)	7440-28-0	RTHRM; or STABL	RTHRM; or STABL	NA[a]	NA[a]	NA[a]
U217	LDR-nonwastewater	Thallium (measured in wastewaters only)	7440-28-0	RTHRM; or STABL	RTHRM; or STABL	NA[a]	NA[a]	NA[a]
U218	LDR-nonwastewater	Thioacetamide	62-55-5	CMBST	CMBST	NA[a]	NA[a]	NA[a]

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- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
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- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
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- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
U219	LDR-nonwastewater	Thiourea	62-56-6	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U220	LDR-nonwastewater	Toluene	108-88-3	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U221	LDR-nonwastewater	Toluenediamine	25376-45-8	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U222	LDR-nonwastewater	o-Toluidine hydrochloride	636-21-5	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U223	LDR-nonwastewater	Toluene diisocyanate	26471-62-5	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U225	LDR-nonwastewater	Bromoform (Tribromomethane)	75-25-2	Determine if waste or residual meets LDR treatment standard	15 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U226	LDR-nonwastewater	1,1,1-Trichloroethane	71-55-6	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U227	LDR-nonwastewater	1,1,2-Trichloroethane	79-00-5	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U228	LDR-nonwastewater	Trichloroethylene	79-01-6	Determine if waste or residual meets LDR treatment standard	6.0 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U234	LDR-nonwastewater	1,3,5-Trinitrobenzene	99-35-4	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U235	LDR-nonwastewater	tris-(2,3-Dibromopropyl)-phosphate	126-72-7	Determine if waste or residual meets LDR treatment standard	0.1 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U236	LDR-nonwastewater	Trypan Blue	72-57-1	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U237	LDR-nonwastewater	Uracil mustard	66-75-1	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U238	LDR-nonwastewater	Urethane (Ethyl carbamate)	51-79-6	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U239	LDR-nonwastewater	Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)	1330-20-7	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 5035,5030, 8260	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U240	LDR-nonwastewater	2,4-D(2,4-Dichlorophenoxyacetic acid)	94-75-7	Determine if waste or residual meets LDR treatment standard	10 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 8151	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
	LDR-nonwastewater	2,4-D (2,4-Dichlorophenoxyacetic acid) salts and esters	NA	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U243	LDR-nonwastewater	Hexachloropropylene	1888-71-7	Determine if waste or residual meets LDR treatment standard	30 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550,8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U244	LDR-nonwastewater	Thiram	137-26-8	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U246	LDR-nonwastewater	Cyanogen bromide	506-68-3	CHOXD; WETOX; or CMBST	CHOXD; WETOX; or CMBST	NA[a]	NA[a]	NA[a]
U247	LDR-nonwastewater	Methoxychlor	72-43-5	Determine if waste or residual meets LDR treatment standard	0.18 mg/kg	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8081	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U248	LDR-nonwastewater	Warfarin	81-81-2	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U249	LDR-nonwastewater	Zinc Phosphide	1314-84-7	CHOXD; CHRED; or CMBST	CHOXD; CHRED; or CMBST	NA[a]	NA[a]	NA[a]
U271	LDR-nonwastewater	Benomyl	17804-35-2	CMBST	1.4 mg/kg or CMBST	NA[a]	NA[a]	NA[a]
U278	LDR-nonwastewater	Bendiocarb	22781-23-3	CMBST	0.14 mg/kg or CMBST	NA[a]	NA[a]	NA[a]
U279	LDR-nonwastewater	Carbaryl	63-25-2	Determine if waste or residual meets LDR treatment standard	0.14 mg/kg or CMBST	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 3550, 8270	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U280	LDR-nonwastewater	Barban	101-27-9	CMBST	1.4 mg/kg or CMBST	NA[a]	NA[a]	NA[a]
U328	LDR-nonwastewater	o-Toluidine	95-53-4	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U353	LDR-nonwastewater	p-Toluidine	106-49-0	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U359	LDR-nonwastewater	2-Ethoxyethanol	110-80-5	CMBST	CMBST	NA[a]	NA[a]	NA[a]
U364	LDR-nonwastewater	Bendiocarb phenol	22961-82-6	CMBST	1.4 mg/kg or CMBST	NA[a]	NA[a]	NA[a]
U367	LDR-nonwastewater	Carbofuran phenol	1563-38-8	CMBST	1.4 mg/kg or CMBST	NA[a]	NA[a]	NA[a]
U372	LDR-nonwastewater	Carbendazim	10605-21-7	CMBST	1.4 mg/kg or CMBST	NA[a]	NA[a]	NA[a]
U373	LDR-nonwastewater	Propham	122-42-9	CMBST	1.4 mg/kg or CMBST	NA[a]	NA[a]	NA[a]
U387	LDR-nonwastewater	Prosulfocarb	52888-80-9	CMBST	1.4 mg/kg or CMBST	NA[a]	NA[a]	NA[a]
U389	LDR-nonwastewater	Triallate	2303-17-5	CMBST	1.4 mg/kg or CMBST	NA[a]	NA[a]	NA[a]
U394	LDR-nonwastewater	A2213	30558-43-1	CMBST	1.4 mg/kg or CMBST	NA[a]	NA[a]	NA[a]
U395	LDR-nonwastewater	Diethylene glycol, dicarbamate	5952-26-1	CMBST	1.4 mg/kg or CMBST	NA[a]	NA[a]	NA[a]
U404	LDR-nonwastewater	Triethylamine	121-44-8	Determine if waste or residual meets LDR treatment standard	1.5 mg/kg or CMBST	Treatment Tanks – methods set forth in Appendix D for scoop, trowel, or trier. Single random grab per tank.	SW-846 8015	Every tank when waste code has been identified as applicable and property/constituent is subject to treatment
U409	LDR-nonwastewater	Thiophanate-methyl	23564-05-8	CMBST	1.4 mg/kg or CMBST	NA[a]	NA[a]	NA[a]
U410	LDR-nonwastewater	Thiodicarb	59669-26-0	CMBST	1.4 mg/kg or CMBST	NA[a]	NA[a]	NA[a]
U411	LDR-nonwastewater	Propoxur	114-26-1	CMBST	1.4 mg/kg or CMBST	NA[a]	NA[a]	NA[a]
001U	NA	Actinomycin D	50-76-0	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
002U	NA	Allyl Chloride	107-05-1	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
003U	NA	2-aminoanthraquinone	117-79-3	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]

Table D.2 Land Disposal Restriction Verification

- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
004U	NA	Aminoazobenzene	60-09-3	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
005U	NA	O-aminoazotoluene	97-56-3	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
007U	NA	3-amino-9-ethyl carbazole	132-32-1	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
011U	NA	o-Anisidine (2-methoxyaniline)	90-04-0	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
012U	NA	o-Anisidine hydrochloride	134-29-2	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
014U	NA	Antimycin A	1397-94-0	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
020U	NA	Bromoxynil	1689-84-5	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
023U	NA	Captan	133-06-2	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
027U	NA	Carbophenothion	786-19-6	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
029U	NA	Chloropyrifos	2921-88-2	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
032U	NA	Chlorine gas	7782-50-5	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
033U	NA	2-Chloroethanol	107-07-3	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
036U	NA	4-chloro-m-phenylenediamine	5131-60-2	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
038U	NA	Chloroprene	126-99-8	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
040U	NA	Clonitralid	1420-04-8	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
042U	NA	Coumasphos	56-72-4	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
046U	NA	Cycloheximide	66-81-9	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
051U	NA	Diazinon	333-41-5	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
052U	NA	Dichlone	117-80-6	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
054U	NA	Dichlorvos	62-73-7	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
056U	NA	Diethyl sulfate	64-67-5	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
057U	NA	Dinocap	39300-45-3	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
061U	NA	Ethion	563-12-2	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
068U	NA	Hexamethyl phosphoramide	680-31-9	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
070U	NA	Hydroquinone	123-31-9	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
073U	NA	Isonicotinic acid hydrazide	54-85-3	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
074U	NA	Ketene	463-51-4	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
075U	NA	Lactonitril	78-97-7	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
076U	NA	Leptophos	21609-90-5	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
078U	NA	Malachite green	569-64-2	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
079U	NA	Malathion	121-75-5	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
086U	NA	1-Methylnaphthalene	90-12-0	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
094U	NA	Naled	300-76-5	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
097U	NA	Niridazole	61-57-4	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
098U	NA	Nithiazide	139-94-6	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
100U	NA	Nitro-o-anisidine	99-59-2	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
104U	NA	Nitrogen mustard	51-75-2	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
106U	NA	p-Nitrosodiphenylamine	156-10-5	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
108U	NA	N-nitroso-N-phenylhydroxylamine, ammonium salt	135-20-6	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
110U	NA	Oxydemeton-methyl	301-12-2	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
111U	NA	Paraquat dichloride	1910-42-5	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
112U	NA	Peroxyacetic acid	79-21-0	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
113U	NA	Phenazopyridine hydrochloride	136-40-3	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
115U	NA	Phenobarbitol	50-06-6	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
116U	NA	Phenytoin	57-41-0	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
117U	NA	Phenytoin sodium	630-93-3	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
118U	NA	Phosazetim	4014-14-7	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
119U	NA	Phosmet	732-11-6	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
124U	NA	Propiolactone	57-57-8	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
127U	NA	Propylthiouracil	51-52-5	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
128U	NA	Rotenone	83-749-4	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
129U	NA	Semicarbazide	57-56-7	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
131U	NA	Styrene	100-42-5	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
136U	NA	Terbufos	13071-79-9	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
138U	NA	4,4'-Thiodianiline	139-65-1	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
142U	NA	Trifluralin	1582-09-8	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
143U	NA	2,4,5-Trimethylaniline	137-17-7	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
150U	NA	p-chlorophenol	106-48-9	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
151U	NA	5-chloro-o-toluidene	96-79-4	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
154U	NA	Bis(tri-n-butyl tin) oxide	56-35-9	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
160U	NA	1,3-Butadiene	106-99-0	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
165U	NA	N,N'-Diethylthiourea	105-55-5	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
169U	NA	Octachlorostyrene	29082-74-4	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
170U	NA	Semicarbazide hydrochloride	563-41-7	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]

Table D.2 Land Disposal Restriction Verification

- Table reflects concentrations and/or technologies that must be met prior to land disposal in a subtitle C landfill. For subtitle D landfill disposal, characteristic w aste is decharacterized according to the definitions and limits set forth in Subpart C of 40CFR261. See A2.D.2(a) for details.
- Alternative treatment standards may change rationale requirements, see narrative in A2.D2(f) for details on the Alternative LDR treatment standards for contaminated soil.
- Alternative methods may be required on a case by case basis in order to properly analyze the waste
- Constituents identified in 40CFR268.40 are tested as specified in the table when they are identified as a underlying hazardous constituent.
- Performance-based standards require execution of the technology as specified.
- Where NA[a] is indicated, there is no analytical method based on the treatment technology.
- Where NA[b] is indicated, No LDR treatment standard applies.
- Where NA[c] is indicated, the concentration based standard is met prior to treatment.

Waste Code (prior to treatment)	Waste form as generated (LDR nonwastewater)	Parameter	CAS#	Rationale	Treatment Standard	Sampling Method	Analytical Method	Frequency
171U	NA	Tributyltin (and other salts and esters)	688-73-3	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]
175U	NA	Vinyl Bromide	593-60-2	NA[b]	NA[b]	NA[b]	NA[b]	NA[b]

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 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, EQD 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.3 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.

EQD 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 EQD'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.4 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), EQD 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 EQD 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 is altered 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 LDR compliance 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]

EQD 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, EQD 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 EQD.

The operating log is maintained in hard copy or electronic format for three years with the following information (unless otherwise specified):

- 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.
- Any corrective action information (monitoring, testing or analytical data) required because of a release.
- Foreign source notice
- Manifest discrepancy notifications

Items kept in the operating log are in hard copy or electronic format until the closure of EQD include:

- A description and the quantity of each hazardous waste received, and the method(s) and date(s) of its treatment and storage.
- Closure cost/post closure 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 EQD is to receive hazardous waste from an off-site source, EQD will inform the generator in writing that EQD has the appropriate license for and will accept the waste the generator is shipping. EQD will keep a copy of this written notice in the operating record as described in A2.C.6.

As Subject to 40 CFR 262, Subpart H, EQD will submit the following notices:

- To confirm receipt of a hazardous waste import, EQD will mail and/or electronically send a copy of the movement document bearing all required signatures within 3 working days. A copy will be sent to the foreign exporter and when applicable, to the competent authorities in the countries of export and transit. Once the electronic import-export reporting compliance date is in effect, EQD will electronically send a copy of the movement document to EPA through WIETS or its successor system.
- When acting as importer, EQD will submit a notification to import when the hazardous waste does not require a notification to export by the competent authority in which it is located. The notification to import will be submitted prior to the export using the allowable methods listed in 40 CFR 262.84(b)(1). Hazardous waste from foreign sources will not be issued an approval without acknowledgment of consent from EPA for the notification submitted.

APPENDIX A HAZARDOUS WASTE CODES

APPENDIX A

WASTE CODES ACCEPTED AT THE FACILITY
JULY 31, 2002 PART B PERMIT APPLICATION AMMENDMENT
EQ DETROIT, INC.
DETROIT, MICHIGAN
Revised: September 13, 2005

EPA Hazardous Waste Codes

D001	F005	K025	K097	K172	P045	P103	U011	U061	U111	U159	U210	U411
D002	F006	K026	K098	K174	P046	P104	U012	U062	U112	U160	U211	
D003	F007	K027	K099	K175	P047	P105	U014	U063	U113	U161	U213	
D004	F008	K028	K100	K176	P048	P106	U015	U064	U114	U162	U214	
D005	F009	K029	K101	K177	P049	P108	U016	U066	U115	U163	U215	
D006	F010	K030	K102	K178	P050	P109	U017	U067	U116	U164	U216	
D007	F011	K031	K103	K181	P051	P110	U018	U068	U117	U165	U217	
D008	F012	K032	K104	P001	P054	P111	U019	U069	U118	U166	U218	
D009	F019	K033	K105	P002	P056	P112	U020	U070	U119	U167	U219	
D010	F020	K034	K106	P003	P057	P113	U021	U071	U120	U168	U220	
D011	F021	K035	K107	P004	P058	P114	U022	U072	U121	U169	U221	
D012	F022	K036	K108	P005	P059	P115	U023	U073	U122	U170	U222	
D013	F023	K037	K109	P006	P060	P116	U024	U074	U123	U171	U223	
D014	F024	K038	K110	P007	P062	P118	U025	U075	U124	U172	U225	
D015	F025	K039	K111	P008	P063	P119	U026	U076	U125	U173	U226	
D016	F026	K040	K112	P009	P064	P120	U027	U077	U126	U174	U227	
D017	F027	K041	K113	P010	P065	P121	U028	U078	U127	U176	U228	
D018	F028	K042	K114	P011	P066	P122	U029	U079	U128	U177	U234	
D019	F032	K043	K115	P012	P067	P123	U030	U080	U129	U178	U235	
D020	F034	K044	K116	P013	P068	P127	U031	U081	U130	U179	U236	
D021	F035	K045	K117	P014	P069	P128	U032	U082	U131	U180	U237	
D022	F037	K046	K118	P015	P070	P185	U033	U083	U132	U181	U238	
D023	F038	K047	K123	P016	P071	P188	U034	U084	U133	U182	U239	
D024	F039	K048	K124	P017	P072	P189	U035	U085	U134	U183	U240	
D025	K001	K049	K125	P018	P073	P190	U036	U086	U135	U184	U243	
D026	K002	K050	K126	P020	P074	P191	U037	U087	U136	U185	U244	
D027	K003	K051	K131	P021	P075	P192	U038	U088	U137	U186	U246	
D028	K004	K052	K132	P022	P076	P194	U039	U089	U138	U187	U247	
D029	K005	K060	K136	P023	P077	P196	U041	U090	U140	U188	U248	
D030	K006	K061	K141	P024	P078	P197	U042	U091	U141	U189	U249	
D031	K007	K062	K142	P026	P081	P198	U043	U092	U142	U190	U278	
D032	K008	K069	K143	P027	P082	P199	U044	U093	U143	U191	U279	
D033	K009	K071	K144	P028	P084	P201	U045	U094	U144	U192	U280	
D034	K010	K073	K145	P029	P085	P202	U046	U095	U145	U193	U328	
D035	K011	K076	K147	P030	P087	P203	U047	U096	U146	U194	U353	
D036	K013	K077	K148	P031	P088	P204	U048	U097	U147	U196	U359	
D037	K014	K078	K149	P033	P089	P205	U049	U098	U148	U197	U364	
D038	K015	K083	K150	P034	P092	U001	U050	U099	U149	U200	U367	
D039	K016	K084	K151	P036	P093	U002	U051	U101	U150	U201	U372	
D040	K017	K085	K156	P037	P094	U003	U052	U102	U151	U202	U373	
D041	K018	K086	K157	P038	P095	U004	U053	U103	U152	U203	U387	
D042	K019	K087	K158	P039	P096	U005	U055	U105	U153	U204	U389	
D043	K020	K088	K159	P040	P097	U006	U056	U106	U154	U205	U394	
F001	K021	K093	K161	P041	P098	U007	U057	U107	U155	U206	U395	
F002	K022	K094	K169	P042	P099	U008	U058	U108	U156	U207	U404	
F003	K023	K095	K170	P043	P101	U009	U059	U109	U157	U208	U409	
F004	K024	K096	K171	P044	P102	U010	U060	U110	U158	U209	U410	

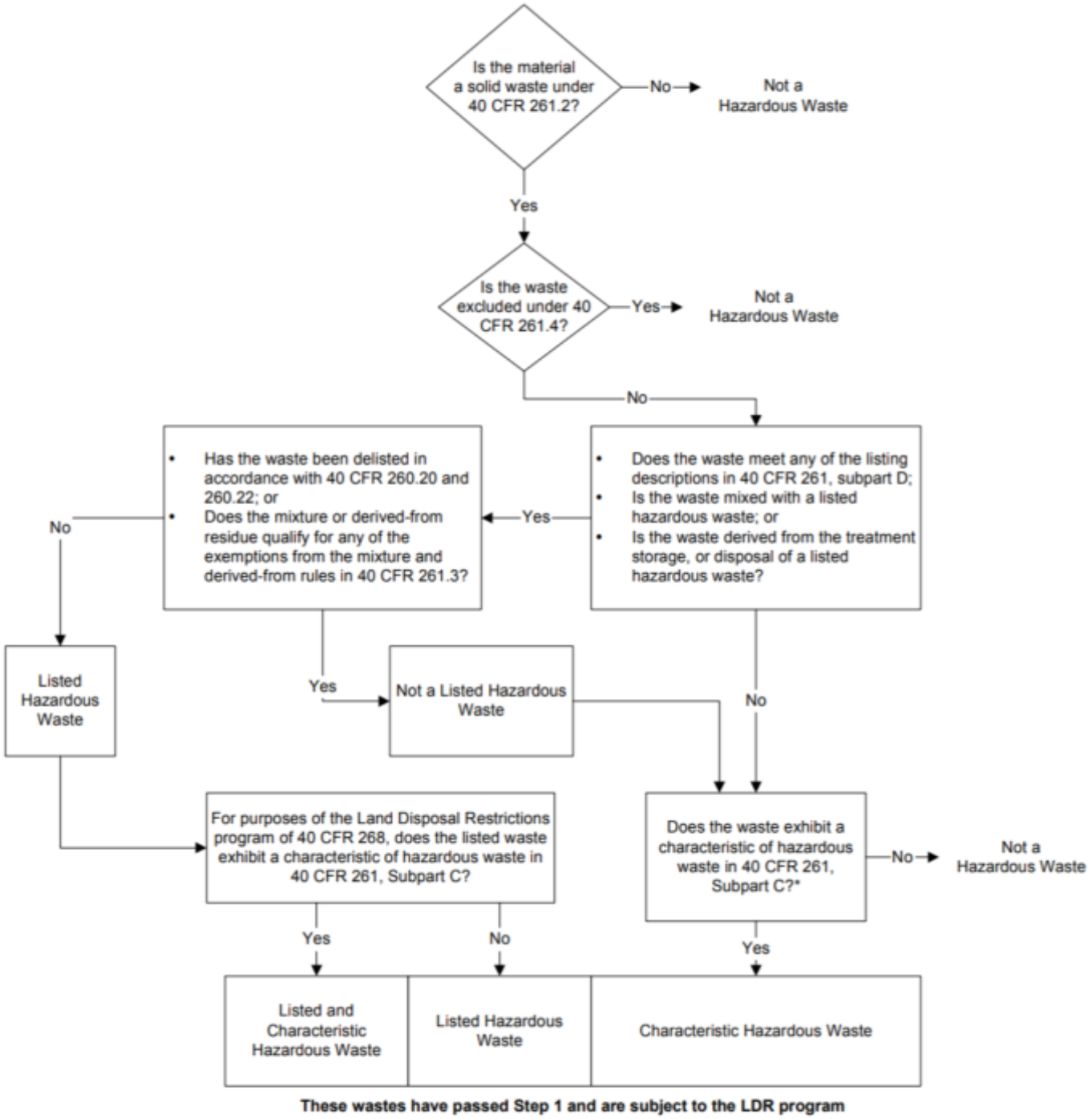
Michigan Hazardous Waste Codes

001 K	054 U	114 U	170 U
002 K	055 U	115 U	171 U
001 U	056 U	116 U	172 U
002 U	057 U	117 U	173 U
003 U	058 U	118 U	174 U
004 U	059 U	119 U	175 U
005 U	061 U	120 U	
006 U	063 U	121 U	
007 U	064 U	122 U	
008 U	065 U	124 U	
009 U	068 U	127 U	
011 U	070 U	128 U	
012 U	071 U	129 U	
013 U	072 U	131 U	
014 U	073 U	132 U	
015 U	074 U	134 U	
016 U	075 U	135 U	
017 U	076 U	136 U	
020 U	077 U	137 U	
021 U	078 U	138 U	
022 U	079 U	139 U	
023 U	080 U	140 U	
024 U	082 U	141 U	
025 U	083 U	142 U	
027 U	086 U	143 U	
028 U	088 U	144 U	
029 U	089 U	146 U	
030 U	090 U	147 U	
031 U	092 U	148 U	
032 U	093 U	150 U	
033 U	094 U	151 U	
034 U	095 U	152 U	
036 U	096 U	153 U	
037 U	097 U	154 U	
038 U	098 U	155 U	
040 U	099 U	157 U	
041 U	100 U	158 U	
042 U	101 U	159 U	
043 U	102 U	160 U	
044 U	103 U	161 U	
046 U	104 U	162 U	
047 U	106 U	164 U	
048 U	108 U	165 U	
049 U	110 U	166 U	
050 U	111 U	167 U	
051 U	112 U	168 U	
052 U	113 U	169 U	

APPENDIX B HAZARDOUS WASTE IDENTIFICATION

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

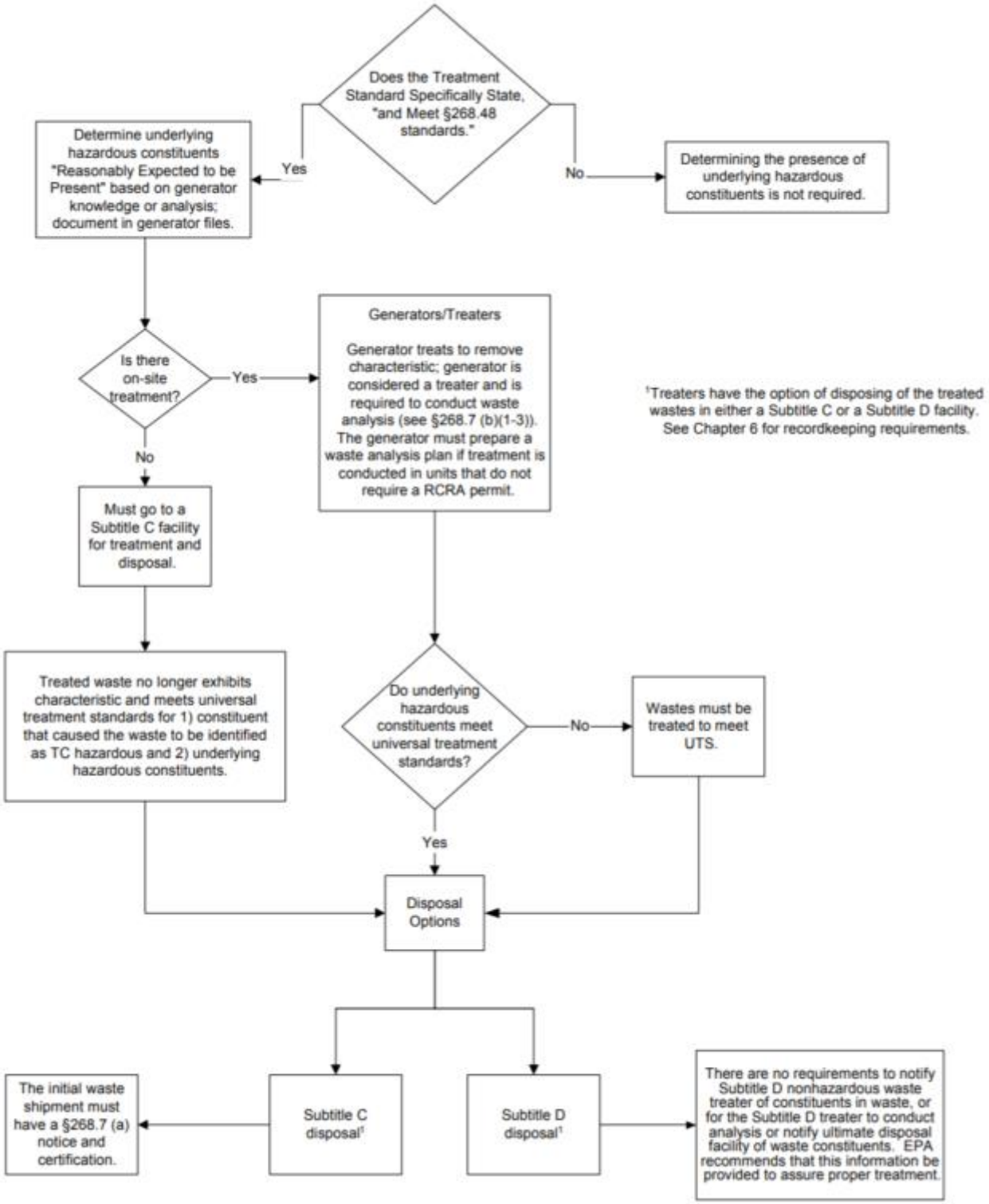
Appendix B Flow Charts - Waste Characterization Determination



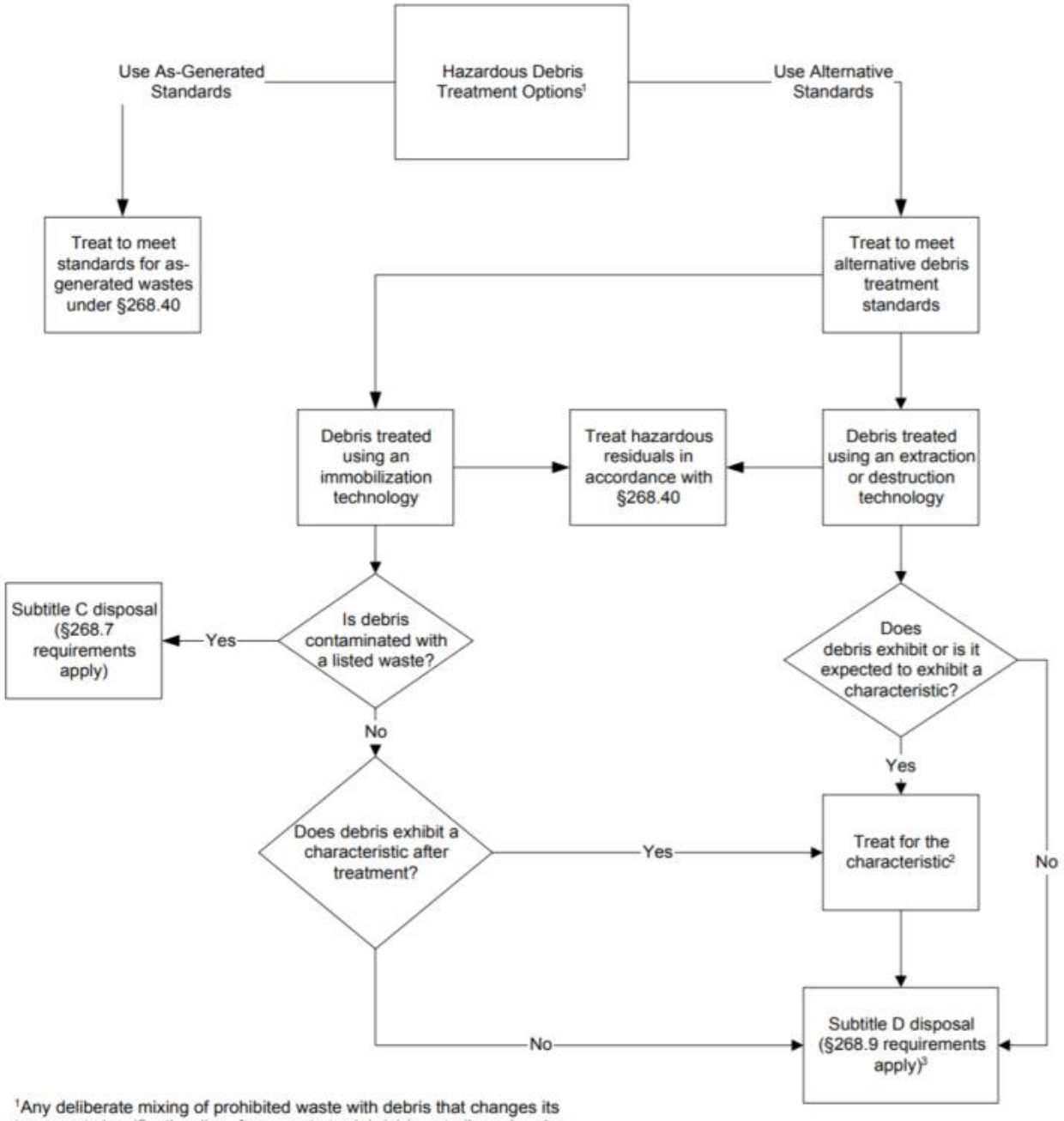
These wastes have passed Step 1 and are subject to the LDR program

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

Appendix B Flow Charts - Underlying Hazardous Constituent



Appendix B Flow Charts - Debris Treatment

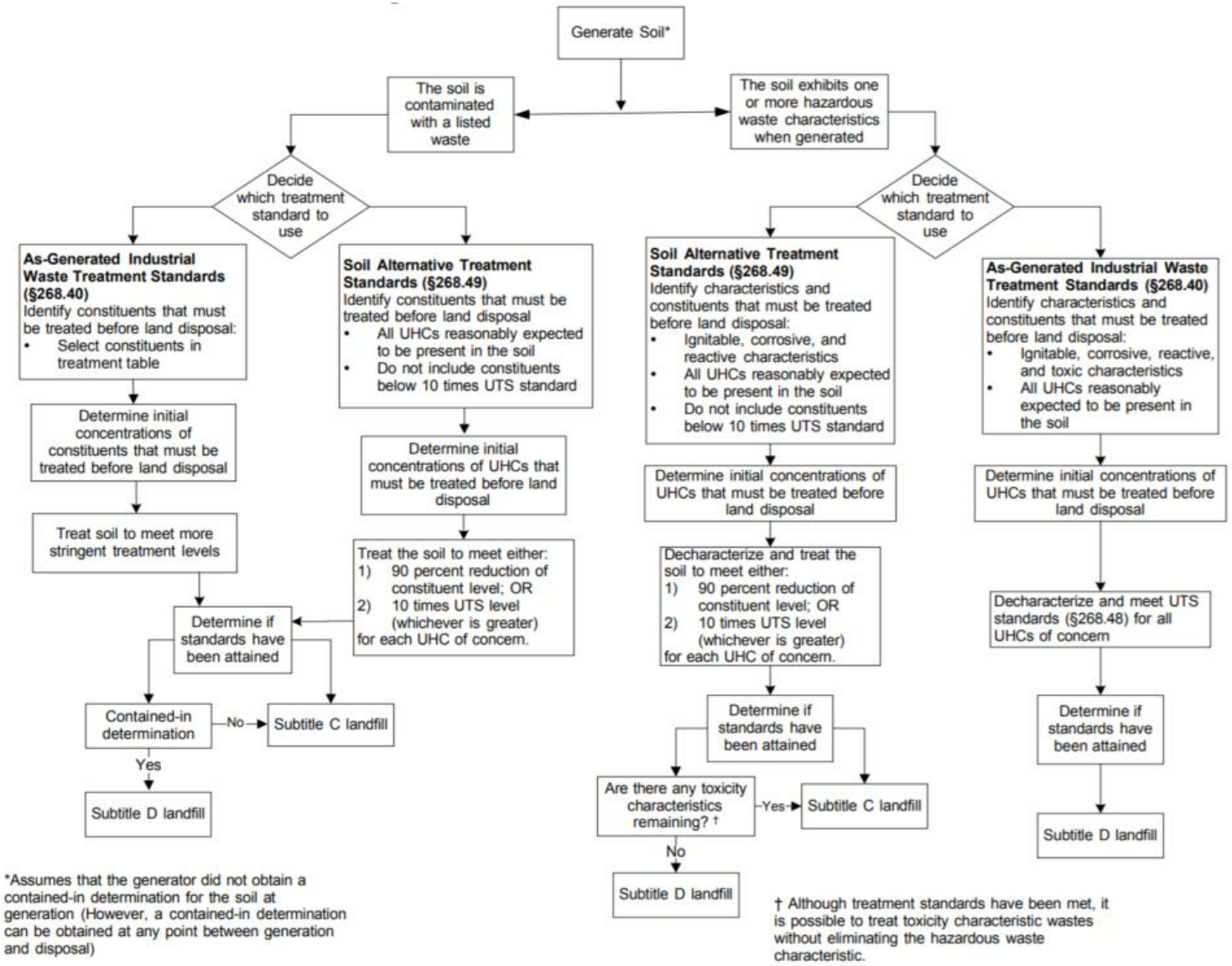


[1]Any deliberate mixing of prohibited waste with debris that changes its treatment classification (i.e., from waste to debris) is not allowed under the dilution prohibition in 40 CFR 268.3.

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

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

Appendix B Flow Charts – Alternative Soil Treatment Standards



APPENDIX C – QA/QC PLAN

US Ecology - Detroit South
(EQ Detroit, Inc.)
Analytical Laboratory
Quality Assurance Management Plan

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1.0 INTRODUCTION

1.1 PURPOSE

The purpose of this Quality Assurance Management Plan (QAMP) is to provide a description of US Ecology's Quality Assurance (QA) Program with respect to policies, organization, objectives, functional responsibilities, and procedures designed to ensure that environmental measurement efforts result in valid, defensible data of known quality.

1.2 REFERENCES

US Ecology has modeled its plan along EPA guidelines as presented in Guidelines and Specifications for Preparing Quality Assurance Program Plans, QAMS-004/80, EPA-600/8-83-024, and Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans, QAMS-005/80, EPA-600/4-83-004. These documents have been published by EPA's Office of Monitoring Systems and Quality Assurance, Office of Research and Development. Additional quality control (QC) elements from Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, Compendium and the NELAC Institute (TNI) Standard -2009 have also been incorporated into the plan.

1.3 SCOPE

The QAMP applies to all US Ecology Detroit South laboratory employees, and supervisors of laboratory employees, in instances where regulatory defensible quantitative data is required.

2.0 MANAGEMENT REQUIREMENTS

2.1 ROLES AND RESPONSIBILITIES

Director of Operations (or otherwise named): The Director of Operations is responsible for all management issues with the laboratory.

Director of Laboratories-US Ecology: The Director of Laboratories for US Ecology is responsible for regularly auditing laboratories- both internal and external- to ensure compliance with technical procedures, this QAMP, and other best practices.

Technical Services Manager: The Technical Services Manager, in conjunction with the Laboratory Supervisor, is responsible for the implementation of this program. The Laboratory Supervisor will discuss laboratory needs and requirements, and significant corrective actions or changes to operational procedures with the Technical Services Manager.

Laboratory Supervisor: The Laboratory Supervisor oversees daily operations of the laboratory. In addition to supervision of laboratory employees, the lab supervisor ensures reporting of any required metrics and completion of any required audits.

Laboratory Employees: Laboratory employees are responsible for understanding and following this protocol.

3.0 QUALITY SYSTEMS

3.1 QUALITY ASSURANCE POLICY

The objective of US Ecology's Laboratory Quality Management System is to support the management teams' commitment to consistently provide operations with defensible data of known and documented quality that meets all regulatory requirements. Our policy is to always use good professional practices, to maintain quality, to uphold the highest quality standards, and to comply with the relevant aspects of both ISO/IEC 17025:2005(E) and TNI NELAC Standard EL-V1-2009-ISO. US Ecology ensures that all laboratory personnel are free from all commercial, financial, and other undue pressures, which might adversely affect the quality of data. This policy is implemented and enforced through the unequivocal commitment of management, at all levels, to the Quality Assurance (QA) principles and practices outlined in this manual. However, the primary responsibility for quality rests with each individual within the laboratory organization. Every laboratory employee must ensure that the generation and reporting of quality analytical data is their fundamental priority. Every laboratory employee is required to familiarize themselves with the quality documentation and to implement the policies and procedures in their work. All employees are trained annually on ethical principles and procedures surrounding the data that is generated. It is US Ecology's responsibility to its employees to provide all resources and training necessary to support the implementation of the Quality Assurance plan.

3.2 IMPLEMENTATION OF QUALITY ASSURANCE POLICY

- Disseminating the policy throughout the Laboratory
- Establishing a procedure to identify and comply with both the spirit and letter of federal, state, and local environmental laws and regulations which are applicable to the analytical methods performed by US Ecology
- Assigning specific responsibilities and aiding all persons involved in the generation and reporting of analytical data, and
- Establishing a QA program based on clearly defined objectives, well-documented procedures, a comprehensive audit system, and management support

4.0 DOCUMENT CONTROL

4.1 DOCUMENT TYPE

- Standard Operating Procedures (SOP)
- Work Instructions
- Forms
- Communications

4.2 DOCUMENT CONTROL PROCEDURE

Controlled Documents are assigned a unique document control number. The copy available electronically is the most up to date and complete. Employees must confirm that any printed document has an identical revision date to the electronic version.

4.3 DOCUMENT REVISION

Changes to documents occur periodically to reflect a change in the operational or analytical processes described therein. Entire documents or applicable revisions to documents are trained on at the time the document is controlled. Previous revisions are archived.

5.0 SUBCONTRACTING

When the laboratory subcontracts work, whether because of unforeseen reasons (e.g., workload, need for further expertise or temporary incapacity) or on a continuing basis, this work shall be placed with a laboratory competent of analyzing the parameters of interest. A third-party accreditation agency such as NELAP, A2L2, ISO, etc., is used to substantiate the competency of the subcontracted laboratory. Alternatively, another US Ecology facility operating under the same QA/QC requirements.

6.0 SERVICES, SUPPLIES, AND STANDARDS

When the laboratory procures outside services and supplies in support of tests, they use only those outside support services and supplies that are of adequate quality to sustain confidence in the laboratory's tests. In addition to quality, other factors such as availability of products, speed of delivery, pricing, availability of certificates of analysis, and overall user experience are considered.

Solvents, glassware, reagents, and other supplies are stored onsite in sufficient quantities. Acid and solvent blanks are analyzed as part of the method in which they are used. This confirms that they are free of interferences and are appropriate for the methods.

A critical element in the generation of quality data is the purity/quality and traceability of the standard solutions and reagents used in the analytical operations.

To ensure the highest purity possible, all primary reference standards and standard solutions used by US Ecology are obtained from reliable commercial sources. All standards and standard solutions are recorded in a standard solution log that identifies the vendor, lot number, purity/concentration, preparation date, preparer's name, method of preparation, expiration date, and any other relevant information.

Standard solutions are validated prior to their initial use to verify their acceptability for use as a calibration or QC standard. Validation procedures can range from a check for chromatographic purity to verification of the concentration of the standard, using separate standards prepared at a different time or obtained from a different source. Stock and working standards are checked regularly for signs of deterioration such as discoloration, formation of precipitates, volume changes, or changes in concentration. Care is exercised in the proper storage and handling of standard solutions, and all containers must be labeled to maintain traceability to parameter, concentration, solvent, expiration date, and preparation data, including the initials of the preparer and date of preparation.

7.0 RECORDKEEPING

Laboratory reports are stored for retrieval on site either in the active or archival files. Supporting raw data is also stored on site either on respective bench sheets or in electronic files. Records are kept for the duration of site operation plus 3 years following closure in accordance with operating recordkeeping requirements outlined in 40 CFR 264.73.

8.0 AUDITS

8.1 ANNUAL QUALITY SYSTEM AUDIT

The quality system audit provides an evaluation of the adequacy of the overall measurement system to provide data of known quality, which is sufficient to meet the objectives of the QA program.

The systems audit consists of observations and documentation of all aspects of the data generation and reporting process. In addition to evaluating analytical procedures and techniques, the systems audit will emphasize review of all recordkeeping and data handling systems. Calibration documentation, completeness of forms, data review, sample handling, quality control documentation, completion of previous corrective or preventative actions, and training are some of the specifics that may be included.

8.2 DOCUMENT REVIEW/ METHOD COMPLIANCE

At least biennially the laboratory supervisor, or a qualified designee, will review technical procedures to ensure compliance with the referenced methodologies provided in the Chemical and Physical Waste Analysis Plan (WAP). The supervisor or designee will further audit the procedure by checking through records and documentation to ensure the procedure is being carried out as written.

8.3 PERFORMANCE AUDIT

The performance audit represents a quantitative assessment of the measurement data quality. It provides a direct, point-in-time evaluation of the accuracy of the various measurement systems and procedures. This will be accomplished by challenging each system with an accepted reference standard for the parameter of interest.

Blind Performance Evaluation (PE) samples are ordered from a certified PE provider and submitted to each laboratory. Each regulatory parameter is evaluated at least twice per year.

The data generated during the Performance Evaluation is reported to the appropriate certified PE provider. The certified PE provider evaluates the data and submits a Pass/Fail digital report to the Laboratory Supervisor.

The results of the evaluation are subsequently reviewed with the participating areas of the laboratory, the Director of Laboratories-US Ecology, and other management as required. The Corrective Action Process is initiated for failing analytes.

9.0 CORRECTIVE OR PREVENTATIVE ACTION

The QA program provides systematic procedures to implement corrective actions and improve analytical systems. Circumstances that may require a corrective action plan are: deficiencies being detected through a system or performance audit, QC data (i.e., blanks, spikes, LCS) being outside the acceptable limits for precision and accuracy, or external inquiries.

9.1 ACTIONS RESULTING FROM SYSTEM OR PERFORMACE AUDIT

The US Ecology Corrective Preventative Action Program will be followed. Generally, the program requires the following: a root cause analysis, a planned corrective action, a timeline for completion, documentation of completion, and verification.

Actions that can be immediately completed and verified by the auditor are not required to be managed in accordance with the US Ecology Corrective and Preventative Action Program.

9.2 BENCH LEVEL CORRECTIVE ACTIONS

Upon data validation, it may be discovered that QC data is outside of laboratory tolerances. Examples may include elevated blanks, poor LCS recovery, poor duplicate precision. In instances where poor analytical accuracy or precision will have regulatory consequences (such as incorrect characterization or verification of treatment below UTS), the data is rejected and a corrective action is performed. Upon completion of a corrective action, the sample will be reanalyzed.

Corrective action procedures are often handled at the bench level by the analyst who reviews the preparation or extraction procedure for possible errors and checks the instrument calibration, spike and calibration mixes, etc. If the problem persists or cannot be identified, the matter is referred to the Laboratory Supervisor.

Corrective Actions taken on the bench level are normally documented on the Inorganic Analysis and Organic Analyses Corrective Action Sheets.

9.3 MANAGEMENT OF CHANGE

A management of change procedure will be initiated for new types of instrumentations and whenever a base method is changed, to verify that we are remaining compliant with our permits. Example: Switching from 6010D (metals by ICP) to 7010 (Graphite furnace atomic absorption spectrophotometry).

10.0 PERSONNEL

Refer to part 111 permit for personnel qualifications.

10.1 DEMONSTRATIONS OF CAPABILITY

Prior to conducting analysis and reporting results, each chemist is required to perform an Initial Demonstration of Capability for each method that they will be performing. Additionally, anytime there is a significant change to a procedure or a method, a demonstration will be recorded. An annual continuing Demonstration of Capability is required for each chemist performing a method.

Demonstrations of Capabilities can be performed in several ways: results of 4 successive Laboratory Control Samples with precision and accuracy meeting or exceeding the method criteria, successful analysis of a blind PT sample, or monitoring of QC trends.

10.2 ETHICS POLICY

At US Ecology, we believe in a culture of honesty, trust, and integrity in all business practices. No employee shall knowingly manipulate or falsify data. No employee shall knowingly deviate from the Quality Assurance requirements established for the laboratory. All employees shall make every effort to minimize the generation of waste during sample preparation and analysis and will properly dispose of all waste following established laboratory practices. US Ecology will make all necessary information available to the employee to perform job responsibilities according to ethical and established practices.

11.0 TEST METHODS

Refer to Table A2.A.2 Pre-Approval/Waste Characterization Analysis Procedures in the Site WAP.

11.1 STANDARD OPERATING PROCEDURES

SOPs are controlled documents (refer to section 4 above) that are reviewed and audited regularly. Technical procedures describe a specific testing methodology that will result in measurable analytical data. Procedures are updated regularly as they often contain specific information found outside of the test method. Examples may include instrument specific voltages or gas flows not defined by the methods, consumable part numbers, laboratory specific safety procedures, acceptable QC ranges (if more conservative than the test method), and other helpful information that can be of use to the analyst. Nontechnical procedures and work instructions often describe qualitative analytical procedures (such as reactivity testing) or other business functions of the laboratory, such as how to use software.

12.0 EQUIPMENT AND CALIBRATION

12.1 EQUIPMENT OPERATION

The laboratory maintains instrumentation capable of performing analysis within the required QC specifications of the test method. Documentation of instrument usage and maintenance is found in the electronic logbooks.

12.2 MAINTENANCE

A schedule is established for all routine maintenance activities. Other maintenance activities may also be identified as requiring attention on an as-needed basis. Manufacturer's recommendations provide the primary basis for the established maintenance schedules, and manufacturer's service contracts provide primary maintenance for major instruments. Maintenance activities are documented in a log, which indicates the required frequency for each procedure and provides for dated entries.

12.3 SPARE PARTS

Along with a schedule for maintenance activities, an adequate inventory of spare parts is maintained to minimize equipment downtime. This inventory emphasizes those parts and supplies which:

a) Are subject to frequent failure

b) Have limited useful lifetimes

c) Cannot be obtained in a timely manner should failure occur

For major pieces of capital equipment, service contracts may be maintained in lieu of a spare parts inventory.

12.4 CALIBRATION

Calibration of an analytical system involves quantification of the system response to an accepted reference standard for the analyte of interest. The calibration procedures and standards used directly influence the validity of the resulting measurement data. Most standard analytical methods specify calibration procedures and requirements. Detailed calibration procedures are described in standard operating procedures that are maintained at the facility.

12.5 GLASSWARE CLEANING

In the analysis of samples containing components in the parts per million or billion ranges, the preparation of scrupulously clean glassware is necessary. Failure to do so can lead to a myriad of problems in the interpretation of the final data due to the presence of extraneous contamination. The basic cleaning steps may include a combination of the following: removal of surface residuals immediately after use with water, alcohol, or solvent; hot tap water soak or rinse to loosen and float most particulate material; hot tap water rinse to flush away floated particulate soak with an oxidizing agent/detergent to destroy traces of organic compounds; dilute acid rinse to remove detergent for inorganic glassware; DI water rinse to remove metallic deposits from the tap water; alcohol rinse or oven dry to eliminate any final traces of contaminants if the glassware is for organic analysis; flush the item immediately before use with some of the same solvent that will be used if the glassware is for organic analysis.

Alternative cleaning procedures can be used if analyses of blanks reflect the removal of contamination.

13.0 MEASUREMENT TRACEABILITY

13.1 GENERAL

Traceability shall be assured using documentation, calibration, and analysis of reference standards. Laboratory equipment should be checked regularly for accuracy or should have a certificate of accuracy or traceability. Balances, thermometers, DI water systems, timers, and volumetric dispensers are all included (Exceptions are class A glassware and glass microliter syringes with a certificate of accuracy). Whenever possible, standards or equipment are traceable to a NIST source.

13.2 REFERENCE STANDARDS AND REAGENTS

Refer to section 6.0.

14.0 HANDLING OF SAMPLES

Samples must be collected in such a manner that no foreign material is introduced into the sample and no parameters of interest are lost from the sample prior to analysis. To ensure sample integrity, items such as

appropriateness of containers, cleanliness of containers, any required preservation to minimize loss of target parameters, and adequate sample volume should all be considered.

Samples must be properly labeled, sealed, and accompanied by the appropriate chain-of-custody documentation when necessary.

Chains of custody will, at minimum, contain unique sample identifiers, sampling dates, sampling times, sampler's unique initialing or signature, and the laboratory sample custodian's unique initialing or signature to effectively document the collection, transport, and receipt of samples by the laboratory.

14.1 SAMPLE CONTAINERS

Sample containers and storage procedures must be consistent with the chemical and physical properties of the parameters to be analyzed. It must be demonstrated that these do not alter the composition of the sample in a way that would affect the concentration of the target analyte being determined. Special storage and transportation requirements such as refrigeration and protection from light must be specified.

Glass jars with PTFE lined lids are used for organic parameters and polyethylene containers are used for inorganic parameters.

14.2 HOLDING TIMES

The U.S. Environmental Protection Agency (EPA) has established holding time requirements for certain determinations. These holding time requirements differ depending on the specific regulatory program. US Ecology follows the holding times specified in SW-846 Compendium.

1. Per method 1311: Inorganic/Metals must be extracted within 180 days of the sampling date and analyzed within 360 days, except mercury which must be extracted in 28 days and analyzed within 56 days.
2. Per method 9014: Cyanide analyses must be completed within fourteen days of the sampling date.
3. Per Chapter 4: Volatile organic analyses must be completed within fourteen days of the sampling date.
4. Per chapter 4: Semi-volatile organic extractions must be completed within fourteen days of the sampling date. Analysis of the extracts must be completed within forty days.

On occasion, a sample must be reanalyzed to comply with the requirements of this QA Program Plan. If this situation is necessitated by a laboratory problem, such as a sample lost through spillage or the improper execution of an analytical procedure, the re-preparation and/or analysis of the sample must occur within the prescribed holding time.

14.3 RECEIPT OF SAMPLES

All samples are received by designated sample custodians. At the time of sample receipt, the custodian's general responsibilities may include the following: ensuring proper storage of the samples until analysis is initiated, inspecting, and documenting the physical condition of the sample, reviewing the sample label information for completeness and agreement with the Chain-of Custody forms, and/or labeling the sample with tracking number information if needed.

14.4 SAMPLE MANAGEMENT

Personnel are responsible for the internal custody procedures associated with the transfer of the samples to the appropriate analytical groups for preparation and/or analysis and their subsequent return to the Sample Control refrigerator. Samples are expected to be returned to the Sample Control Refrigerator as soon as possible following sample preparation. A batch ticket and unique identification number is used to ensure the proper handling, storage, and preservation of all treatment samples received by the laboratory. The laboratory personnel are also responsible for the final disposition of the samples after completion of the analyses.

As an additional custody measure, access to US Ecology's laboratory is restricted to prevent any unauthorized contact with samples, extracts, or documentation.

14.5 SAMPLE DISPOSAL

Laboratory samples are disposed in accordance with all pertinent Federal, State, and Local regulations. Routinely, samples are disposed of by transferring them to the plant processing storage areas where the samples are then processed through waste treatment operations.

APPENDIX D – FACILITY DEVELOPED PROCEDURES

WAP Sampling Procedures

Sampling of Containers

The following are examples of types of devices used to sample containers: coliwasas, drum thieves, scoops, augers, and triers (see Table A.1). The horizontal location in which the waste is sampled is at the discretion of the sampler based on visual observations. The vertical depth of the sample is limited by the sampling equipment utilized and the physical properties of the waste. Samplers visually observe the contents of the container and assess homogeneity and heterogeneity of the physical properties of the waste. Samplers will obtain a random grab sample from visually homogeneous waste. For visually heterogeneous waste, to the extent possible, samples are collected of differing materials. If the materials cannot be sampled or if safety concerns impeded the sampler's ability to obtain a sample, the sampler will use their best judgement to selectively collect samples of materials expected to exhibit worst case properties of the waste. The contents of the sampling device are then transferred to a polyethylene or glass bottle that is labeled with waste identification information. For specific information reference Table A.2.

Coliwasas, thieves, or dippers are used to collect liquids (or liquids with precipitated solids). A corer, trier, auger, or scooping device is used to sample containers that are solid in nature. The sample collector removes a sample that uniformly represents the waste composition of the container (i.e., all layers and phases are represented in the sample)

Sampling of Bulk Material

Bulk sampling requires samplers to be on a safe and stable platform that allows them to maneuver sampling equipment without risk of falls. The bulk solids are large "contained in" containers such as roll-off boxes, vacuum boxes, or dump trailers. Container openings are dependent on the container type. Samplers visually observe the contents of the container and assess homogeneity and heterogeneity of the physical properties of the waste. Samplers will obtain a random grab sample form visually homogeneous waste. For visually heterogeneous waste, to the extent possible samples are collected of differing materials. If the materials cannot be sampled or if safety concerns impede the sampler's ability to obtain a sample, the sampler will use their best judgement to selectively collect samples of materials expected to exhibit worst case properties of the waste.

The elevation at which bulk samples are taken creates challenges in accessing waste in bulk containers. Bulk liquids are sampled using a Coliwasa or similar device that can sample vertical anomalies. When possible, augers and triers are used with solids to draw a sample from as deep as safe access allows. When access is impeded, scoops are collected.

Debris

Debris is sampled as possible; however, not all wastes are amenable to sampling. If sizing of the sampled debris is possible, sampler utilizes non-sparking, cutting hand tools capable of cutting through the waste to collect a sample. A container of debris often contains a wide variety of materials. For example, it may contain spill absorbent, Tyvek suits, rubber booties, gloves, and paper towels. Sampler judgement would target the spill absorbent material as it is expected to exhibit the worst-case properties of the waste.

In virtually all situations, debris that cannot be reasonably sampled has one thing in common: non-hazardous materials are contaminated with very small to trace amounts of hazardous constituents present on the waste surface or absorbed into the waste.

Sampling Equipment Use

Coliwasa (Composite liquid Waste Sampler): The sampling device is inserted into the container from the top and is pushed down slowly as far into the container as possible. The device is sealed to retain the contents. Usually consists of two sections. The outer section is a sleeve that may be tapered at the end. The inner section is a rod with some type of stopper on the end. When the inner section is fitted inside the outer section, a seal is formed, and the unit is locked. There are variations in the mechanisms of opening and closing coliwasas. They can be used to obtain samples of liquids from specific depths. To use the coliwasa, first place it in the open position. Next, lower it slowly into the liquid, always keeping it vertical and making sure that the levels of the liquid inside and outside the sampler tube remain about the same. The coliwassa is placed as far into the waste as can safely be done considering the surface and elevation in which sampling is being performed. When the unit touches the bottom of the container or the reached the desired depth, close the coliwasa. Remove the sampler from the liquid with one hand, while wiping the outer tube with a disposable cloth or rag with the other hand. Open the coliwasa over the sample container and place the liquid inside.

Auger: An auger samples hard or packed solid materials or soil. It consists of sharpened spiral blades attached to a hard metal central shaft. The sample is collected by rotating the handle of the auger in a clockwise direction while applying slight downward pressure. Continue turning until the desired depth has been reached. Pull the auger straight up out of the material, then remove the material that has been withdrawn in the screw head of the auger and place it in the sample container.

Thief**:** This device consists of an open-ended tube. To extract a sample, slowly lower the thief into the liquid, always keeping it vertical, as far into the waste as can safely be done considering the surface and elevation in which sampling is being performed. Place your thumb, or a stopper, over the top to create a vacuum. This will hold the sample in the tube while it is removed from the container. Use caution, as this form of vacuum does not always hold the sample in place. Place the thief over the appropriate container and release the vacuum by removing your thumb or the stopper. A thief should be used for liquids, slurries, and sludges.

Trier**:** A trier is used to sample waste with a fine-grained consistency, such as soil or similar waste. It consists of a handle and a tube cut in half lengthwise, with a sharpened tip that allows the sampler to cut into sticky materials and loosen solids. To extract a sample, hold the trier either horizontally or with the handle end tilted slightly downward. Insert the trier into the material to be sampled and cut a core of the material by rotating the trier once or twice. Stop the rotation with the open face pointing upward. Finally, slowly remove the trier and empty the contents into the sampling container.

Dipper/Cup**:** A dipper samples single-phased liquids or sludges. It consists of a glass, metal, or plastic beaker clamped to the end of a two- or three-piece telescoping aluminum or fiberglass pole that serves as a handle. Samples are taken at, or just below, the surface. To extract a sample, submerge the dipper into the material slowly, to cause a minimum surface disturbance. Allow the beaker to fill and slowly bring it to the surface. Finally, slowly pour the contents into the sample container.

Scoop/Cup/Spoon/Trowel**:** Primarily used for collecting samples in areas near or at the surface of the waste. The scoop will have an extension to assist the sampler in collecting a sample. The sample cup is placed into a metal ring which will hold it into place. Scoops are used specifically for the collection of surface and near surface samples and should only be utilize when other sampling options are not feasible.

Internal Analytical Procedures

pH screen: The pH of the material will be measured using wide range pH paper (mentioned in SW846 9041) on a single aliquot of waste Sample. Only a droplet of waste is required for this test procedure. Daily,

the wide range pH paper being used will be verified by ensuring the appropriate color change when subjecting the paper to acidic, neutral, or caustic liquids of known pH. Liquids will be in the form of known aqueous acids or caustics (such as hydrochloric acid or sodium hydroxide solutions) or in the form of pH calibration buffers.

Ignitability Screen: An approximate volume of 5 mL of waste will be exposed to direct contact with a flame for 5 seconds. For discrepant waste or unknown material, a smaller sample should first be attempted. Test should be performed behind a fume hood sash.

Cyanide Screen: All measurements are approximate. All reagents are prepared as per SW846 9014. A color check standard will be performed daily using a 10 ppm standard. Slurry 1 gram or 1mL of waste with DI water up to 5mL. Add 2 mL of 1.0M Sodium Phosphate Monobasic buffer solution. Add 0.5mL of 0.44% chloramine- T solution. Wait one minute and add 1mL of Pyridine- Barbituric acid solution. If the solution changes color to violet within 5 minutes, the test is considered a positive.

Sulfide Screen: Add approximately 5mL of waste to a to a polyethylene container. Dilute to approximately 20mL with deionized water and mix by gentle agitation of the cup. Moisten lead acetate paper with water and stick paper to the bottom side of the lid. A few drops of sulfuric acid will be added such that the pH of the contents in the cup are <2. The lid will be placed over the cup and sealed for 1 minute. Results are compared to a control lead acetate paper from testing a10ppm standard of sulfide.

Reactivity with Water: Approximately ten milliliters (mls) or equal volume of waste (wetted waste) is mixed rapidly with approximately ten mL DI water. Samples are monitored for reactions for a minimum of 5 minutes.

Reactivity with Stabilization or Solidification Reagent: Approximately ten milliliters (mls) or equal volume of waste (dampened waste) is mixed rapidly with approximately ten CC dry stabilization or solidification reagent. Samples are monitored for reactions for a minimum of 5 minutes.

Reactivity with Bleach: Approximately ten milliliters (mls) or equal volume of waste (wetted waste) is mixed rapidly with approximately 10mL bleach. Samples are monitored for reactions for a minimum of 5 minutes.

Reactivity with Caustic: Approximately ten milliliters (mls) or equal volume of waste (wetted waste) is mixed rapidly with approximately 10mL of 20% NaOH solution. Samples are monitored for reactions for a minimum of 5 minutes.

Reactivity with Acid: Approximately ten milliliters (mls) or equal volume of waste (wetted waste) is mixed rapidly with approximately ten mL 20% hydrochloric acid. Samples are monitored for reactions for a minimum of 5 minutes.