

ATTACHMENT II-1

WASTE ANALYSIS PLAN

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ATTACHMENT II-1

WASTE ANALYSIS PLAN

I. GENERAL PROVISIONS AND REQUIREMENTS

1. For each waste stream received at the Facility from an off-site generator (off-site waste), the Permittee shall evaluate the associated Waste Profile Record (WPR) to ensure the waste is acceptable for management prior to signing a hazardous waste manifest for that waste stream. WPR requirements are outlined in Section II of this Waste Analysis Plan (WAP).
2. Each shipment shall be inspected in accordance with Section IV of this WAP.
3. Each waste stream shall be sampled and analyzed in accordance with Section V of this WAP.
4. If a waste contains both a liquid and solid phase, each phase shall be sampled and analyzed individually in accordance with this WAP.
5. Shipment Receipt and Manifest Requirements
 - a. The manifest or shipping papers shall be reviewed for discrepancies on the date a shipment of waste arrives at the Facility. The manifest shall be signed, and a copy of the manifest shall be provided to the transporter. Manifest discrepancies are described in Section III.1.a of this WAP.
 - b. The Permittee's Tracking Number shall be recorded on the manifest.
 - c. Any manifest discrepancies observed at the time of arrival at the Facility shall be noted on the manifest.
 - d. Signed manifests (or copies of same) shall be kept on file at the Facility and a copy sent to the generator within 30 days of signing the manifest.
6. Following any holding period and upon receipt into storage, treatment or disposal management, the shipment shall be tracked in accordance with Attachment III-2, *Waste Identification and Tracking Plan*.

(Note: See Attachment III-1, *Container Management Plan* for the definition of the date of arrival and for a description of holding provisions.)
7. Documentation related to sample collection or to on-site analysis shall be kept in the Operating Record for a period of three years. Off-site analytical laboratory results shall be kept in the Operating Record for a period of five years.

8. The applicable treatment standards for F001-F005 wastes and wastes subject to the Universal Treatment Standards shall be defined as those constituents identified as applicable by the generator. The generator may use acceptable knowledge (58 FR 48111) or analytical testing to identify the applicable constituents. Analytical results shall be provided to verify that the applicable treatment standards of UAC R315-13-1 have been met or that treatment is required prior to disposal.
9. When a shipment of off-site waste or treatment residue arrives without an accompanying LDR notice or certification, the Permittee shall either obtain a certification for that shipment and note in the Operating Record that the certification did not arrive with the shipment, or the Permittee shall analyze a sample of each waste stream from the shipment prior to land disposal to ensure that the applicable treatment standards of UAC R315-13-1 have been met for each uncertified waste stream.
10. If a waste sample is collected and it is determined at a later time that the sample does not meet the requirements outlined in this WAP (e.g., if a sample is subjected to an extreme heat source or if holding time expires), a replacement sample shall be obtained for analysis in its place. This replacement sample is only required for LDR certification parameters prior to disposal of waste.
11. If a waste sample is analyzed and it is determined that the sample does not match the WPR, two or more additional samples may be collected and analyzed for those parameters that were not met. If the additional samples confirm the first analysis, the procedures for resolving discrepancies outlined in Sections V.6 and V.7 of this WAP shall be followed. If the additional samples do not confirm the results of the first analysis, the original result shall be viewed as an anomaly and the waste may be managed in accordance with this plan.
12. Errors and omissions (e.g., transcription errors, typographical errors, errors in calculations) shall be corrected as information becomes available. These corrections shall be initialed and dated by the person making the correction.
13. Waiver of Sampling or Analysis
 - a. Some wastes do not lend themselves to sampling or to the analyses required by this WAP. (Examples of these wastes include lead bricks, tree stumps, wood, lead shielding, concrete, construction debris, building debris, other debris, bricks, sheet metal, discarded containers, metal, sheet rock, wire, plastic waste, wood pallets, glass, gloves, suits, boots, paper towels, etc.) The analyses of such waste may be waived by the Laboratory Manager (or designee). Waivers shall be documented in the Operating Record.

- b. For such waste, alternative sampling methods may be used to obtain samples for analysis at the discretion of the Director of Mixed Waste Operations, Laboratory Manager, or Environmental Engineer (or designee). Some samples may be analyzed for some parameters and waived for other parameters. Where reasonably possible, analyzable samples shall be obtained and run.
14. Should the Permittee transport treated or untreated wastes to another treatment, storage, disposal or recycling facility, the Permittee shall complete the applicable requirements of UAC R315-13-1.
15. For purposes of Sections IV and V of this WAP, the Permittee may perform remote inspection of off-site wastes as follows:
- a. The Permittee shall provide the Executive Secretary with at least 14 days notice of its intent to perform remote inspection of off-site wastes.
 - b. The Permittee's notice of intent to perform remote inspection shall be accompanied by a detailed remote inspection plan. This plan shall include at a minimum, the following information:
 - i. Identity of personnel who will perform remote inspection,
 - ii. Documentation that personnel who will perform remote inspection have completed all applicable Permittee qualifications and training,
 - iii. A detailed description of remote inspection activities, including the purpose of the remote inspection,
 - iv. A description of the waste stream to be remote inspected,
 - v. Documentation that the LDPE Macro or Macro Capsule to be used will meet the requirements of Attachment II-1-5, *Macroencapsulation Plan*, if applicable,
 - vi. A description of the off-site treatment operating procedures, including procedures to fill voids, if applicable, and
 - vii. The generator's regulatory conditions governing treatment operations, if applicable.
 - c. Remote inspection of off-site waste shall meet all incoming-shipment inspection requirements in Section IV.

- d. Off-site waste that has been remote inspected and found to meet the requirements of this Permit shall have a tamper-evident seal applied and signed by the Permittee's representative.
- e. Upon receipt of remote inspected waste, the following conditions apply:
 - i. The Permittee shall confirm that the tamper-evident seal is present and uncompromised.
 - ii. If there is evidence that the tamper-evident seal has been broken:
 - A. The Permittee shall reject the waste for disposal. Rejected waste shall be returned to the generator; or
 - B. The Permittee shall meet the inspection and sampling requirements of this WAP; or
 - C. With prior Executive Secretary approval, the Permittee may accept the waste for management. A request to accept remote inspected waste which may have been tampered with shall include justification for waiving the inspection and sampling requirements of this WAP.
 - ii. The Permittee shall perform all shipment documentation and non-intrusive receipt inspections required in Section IV.
 - iii. The sampling and analysis requirements of Section V are waived.

II. WASTE PROFILE RECORD REQUIREMENTS

The WPR shall provide the necessary information for management of a waste stream. The following information shall be provided in the WPR:

- 1. A description of the generator, including the generator's:
 - a. Name,
 - b. EPA identification number,
 - c. Generator number and waste stream number assigned by the Permittee,
 - d. Mailing address,
 - e. Business telephone number, a 24-hour emergency telephone number, or both, and
 - f. WPR contact person
- 2. A description of the waste, including:
 - a. Applicable EPA waste numbers or codes,

- b. Whether the waste includes liquids,
 - c. A general indication of the waste's density,
 - d. Any distinguishing color or odor,
 - e. Applicable LDR treatment standards or variances, exclusions, etc.,
 - f. A statement that the sample used for characterization was representative of the waste,
 - g. If sorbents are used, a statement that the sorbents are not biodegradable and what type were used, and
 - h. Other additional information necessary for determining appropriate management of the waste stream such as:
 - i. chemical, physical, and general characteristics and properties
 - ii. information relating to the waste's generation and history
 - iii. an indication of the possible presence of hazardous constituents such as herbicides, pesticides, infectious wastes, PCBs, etc.
 - iv. a statement that the waste is not air reactive, water reactive, shock sensitive or pyrophoric
 - v. information indicating whether the waste exhibits the characteristics of ignitability, corrosivity, or reactivity as defined in UAC R315-2-9(b)
 - vi. an indication of whether or not the waste meets the definition of "Mixed Waste" as defined in Condition I.L. of this Permit.
3. Results of the following analyses:
- a. Paint Filter Liquids Test, (this test may be waived if the generator indicates that the waste is a solid or does not have free liquids based on process knowledge or visual observation),
 - b. pH (for liquids only),
 - c. analytical results of the applicable concentration-based treatment standards,
 - d. analytical results that show the waste is hazardous (e.g., TCLP Cr for D007) or a descriptive declaration that the waste is hazardous and the basis for that determination, and
 - e. Volatile organic and semi-volatile organic analyses. Each constituent listed in Appendix III of 40 CFR part 268 shall be reviewed and/or analyzed. Process knowledge may be used in place of analytical data for the Appendix III review.

(Note: For the purposes of this requirement, total results on a dry weight basis may be used to show that a waste is not toxic. The total results will be divided by a conversion factor of 15 (mg/kg)/(mg/L) in order to determine whether a TCLP limit has the possibility of being exceeded. For example, an analytical result of 75 mg/kg for Ag on a soil sample would demonstrate that the characteristic limit of 5 mg/L TCLP Ag would not be exceeded.)

4. The analytical data used by the generator for the WPR shall meet one of the following requirements:
 - a. Analytical results shall be accepted only from the laboratories as follows:
 - i. Laboratories that hold a current National Environmental Laboratory Accreditation Conference (NELAC) accreditation, or
 - ii. Laboratory certified by the Utah Department of Health (UDOH) insofar as official certifications are given, or
 - iii. Laboratories with reciprocity with the State of Utah for the parameter being analyzed, or
 - iv. Laboratories that are certified in a state that has been determined by the UDOH to have a laboratory certification program equal to or more stringent than Utah's, or
 - v. Laboratories providing the results to or through the U.S. Environmental Protection Agency, provided that the results are from a CLP laboratory.
 - b. If a laboratory certification other than those listed in II.4.a.i-v is used, the Permittee shall require the generator to supply as part of pre-acceptance and analytical documentation, the most current QA/QC system and performance audit documents that pertain to analytes of concern. Such data may be used for purposes of this WAP only if and when that data is accompanied by the following documentation:
 - i. Results of quality control samples from the same run (set of samples) in which the sample was run,
 - ii. Results must include acceptable ranges and must clearly show that the data was in control, and
 - iii. Quality control samples shall include all those required by SW-846 or other methods approved by the U.S. EPA.
5. The Permittee may provide information for a generator's WPR in coordination with the generator.
6. When the Permittee is notified by the generator that the process generating the waste has changed, the Permittee shall update the WPR. If, as a result of this notification the waste stream has any different EPA waste codes or treatment standards that require the waste to be managed in a different manner, the

Permittee shall obtain a new WPR for that portion of the waste as a separate waste stream.

7. When one calendar year (no more than 365 days) has passed since the arrival of the initial shipment of a waste stream at the facility, the Permittee shall obtain an updated WPR or a letter of update from the generator. A letter of update means that the generator provides a written statement to the Permittee as to whether the existing WPR is still representative of the waste.
 - a. An annual update shall be required for waste streams that have on-going shipments. When the entire waste stream has been received, and no future shipments will arrive, an update is not required.
 - b. If a waste stream has shipments that have been temporarily suspended so that a period greater than one calendar year has passed since: (1) the arrival of the first shipment; or (2) the most recent update, an update is required prior to resuming shipping.
8. When the Permittee has reason to suspect that the process generating the waste or waste stream has changed, the Permittee shall contact the generator and update the WPR as necessary.
9. New WPRs and WPR updates that are required by this plan shall be documented in the Operating Record.

III. DISCREPANCIES AND DISCREPANCY RESOLUTION

1. Description of Discrepancies.
 - a. Manifest Discrepancies:
 - i. Manifest incompleteness
 - ii. Container count or shipment weight discrepancies
 - A. The Permittee shall use the following criteria to determine whether a count/weight discrepancy exists between the manifest and shipment:
 - (1). For bulk wastes, variations greater than ten percent in weight.
 - (2). For containerized wastes, any variation in piece count, such as a discrepancy of one drum in a truckload.
 - iii. Absence of required LDR notices or certifications

- iv. Waste Codes listed on the Manifest and applicable Waste Codes listed on the LDR certification that do not match
 - v. Manifest errors (telephone number, addresses, EPA identification number, names, etc.)
 - b. Inspection Discrepancies:
 - i. Free liquids present where not anticipated
 - ii. Damaged, leaking, or open containers
 - iii. Waste outside of the container
 - c. Appearance Discrepancies:
 - i. Different appearance than is described in the WPR
2. Discrepancy Resolution.
- a. Where discrepancies are identified, the discrepancies shall be noted in the Operating Record and resolved with the generator. Discrepancies shall be resolved prior to treatment or disposal.
 - b. Shipments with discrepancies may be placed in storage pending resolution.
 - c. A shipment with unexpected free liquids shall be managed in accordance with Attachment II-1-4, *Liquid Waste Management Plan*.
 - d. After discrepancies have been resolved, the shipment shall be stored, treated, or disposed in accordance with the applicable provisions of this Permit or returned to the generator.
 - e. Discrepancies, such as typographical errors that are overlooked or discovered at a later date, shall be resolved by making corrections as information becomes available. Corrections shall be initialed and dated.
 - f. Should a shipment involve containers that are open, leaking, or when the integrity of the container is compromised or damaged, the Permittee shall manage the affected waste so that the shipment no longer has open, leaking, or compromised containers and either:
 - i. Manage the shipment in accordance with the requirements of this plan, or
 - ii. Arrange for the return of the shipment.
 - g. Appearance discrepancies may be resolved with the generator by either:

- i. Adding information to the WPR, or
 - ii. Arranging for the return of the shipment.
- h. If the Permittee accepts a waste with a container count or shipment weight discrepancy and the discrepancy is not resolved with the generator within 15 days after the waste has been accepted for sampling, the Permittee shall notify the Executive Secretary. The notification shall include a copy of the manifest or shipping paper and a description of the discrepancy and attempts to reconcile it.

IV. INCOMING-SHIPMENT INSPECTION REQUIREMENTS

1. File Review. In conjunction with each waste shipment or shipment campaign, a file review shall be conducted to ensure that:
 - a. There is a current WPR and Notice to Transport in the Operating Record.
 - b. The Waste Codes listed on the manifest match the applicable Waste Codes listed on the LDR certification and in the WPR.
 - c. Inspectors are familiar with the WPR.
2. Shipment Inspection:
 - a. The Permittee shall perform an inspection of each shipment and shall document the results of that inspection in the Operating Record. This inspection shall include checking for Manifest Discrepancies, Inspection Discrepancies, and Appearance Discrepancies as described in Section III.1 of this WAP.
 - b. Each container and each bulk shipment shall be visually inspected for the presence of free liquids and for appearance discrepancies. Discrepancies shall be documented in the Operating Record.
 - c. Shipments that have had a remote inspection in accordance with Section I.15 of this WAP shall have the inspection of Section IV.2 waived.

V. SAMPLING AND ANALYSIS REQUIREMENTS

1. Sample Collection. Samples shall be obtained as outlined in Section VII of this WAP.
2. Sample Collection Deadlines.

- a. Receipt inspection and sampling of waste in rail cars shall occur within ten days of arrival at the Permittee-operated spur.
 - b. Receipt inspection and sampling of highway shipments shall occur within five days of arrival at the facility.
 - c. Samples taken from incoming shipments shall be submitted to off-site laboratories within two working days from the date that the sample is collected.
3. For each shipment, on-site analyses shall be performed for liquid pH (if applicable) and photoionizer (“sniffer”). These analyses shall either be performed in the field at the time of incoming shipment inspection or a sample may be collected for analysis in the on-site laboratory. These analyses, where applicable, shall be performed on at least 10 percent of the containers in the shipment.
- a. Instrument calibration and sample analysis shall be performed in the same environment.
 - b. For non-debris waste which is to be directly disposed in the landfill cell, a Paint Filter Liquids Test analysis shall also be performed on a random composite sample collected in accordance with Section VII.1.b of this WAP.
4. For each waste stream, a sample of waste shall be analyzed for the parameters listed in Section V.5 of this WAP as indicated:
- a. The first shipment to arrive at the site.
 - b. Annually for Non-Treated Wastes. For off-site wastes that have not been treated to meet LDR treatment standards prior to arrival at the facility:
 - i. the first shipment following or any one shipment prior to the one-year anniversary date of the most recent shipment that was sampled and analyzed for the requirements in Section V.5 of this WAP.
 - c. Semi-Annually for Treatment Residue Wastes. For wastes that have been treated to meet LDR treatment standards prior to arrival at the facility:
 - i. the first shipment following or any one shipment prior to the date six months after the most recent shipment that was sampled and analyzed for the requirements in Section V.5 of this WAP.

- d. If a new code is added to the waste following the procedures in Section V.5 of this WAP, the next shipment following that addition shall be sampled and analyzed for the parameters in Section V.5 of this WAP.
 - e. For purposes of the requirements in Sections V.4.c and V.4.d of this WAP, a sample from a specified shipment may be replaced by a sample from a shipment among a set of available shipments, provided that the shipment that is selected for sample substitution arrives within three days of the date of arrival of the specified shipment.
5. The following parameters shall be analyzed by a Utah-certified laboratory, utilizing the methods specified in Section VI.2 of this WAP:
- a. Total or TCLP metals analysis for antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, nickel, selenium, silver, and thallium,
 - b. Total and amenable cyanide,
 - c. Volatile and semi-volatile organics, and
 - d. The applicable extract concentration or total concentration-based treatment standards.
6. Reconciling analytical data and discrepancies from results required by Sections V.4 and V.5 of this WAP.
- a. The Permittee shall review and reconcile the results with input as necessary from the generator or the generator's designated agent, to ensure that hazardous waste codes have been properly established and whether additional hazardous waste codes are to be added to the WPR and LDR certification. If the results are consistent with the current WPR, the generator need not be contacted.
 - b. For total concentration-based results that could exhibit characteristics that are not currently associated with the waste, TCLP analyses shall also be run on the sample of the waste stream to verify whether the waste exhibits those characteristics. For purposes of this requirement, the total results based on dry weight shall be divided by a conversion factor of 15 (mg/kg)/(mg/L) in order to determine whether a TCLP limit has the possibility of being exceeded. For example, a result of 75 mg/kg or greater for Ag would require a TCLP analysis for Ag since the hazardous waste characteristic limit for Ag is 5 mg/L. Use of this conversion is applicable only to solid-phase wastes.
 - c. The evaluation shall address analytical results that show the presence of concentrations of listed waste constituents (e.g., F001-F005 solvent constituents) that were not addressed as part of the WPR evaluation in terms of whether additional waste codes or treatment standards would be applicable.

- d. If the results show that treatment is required prior to disposal, the Permittee shall arrange for such treatment. If treatment on-site cannot be arranged, the waste shall be sent to an appropriate treatment, storage, or disposal facility or may be returned to the generator, based on the generator's instructions.
 - e. While awaiting the first round of these sample results, shipments shall not be treated or disposed. However, for the annual or semi-annual confirmation sampling of bulk waste, the corresponding shipment of waste may be kept in the landfill cell provided that the waste is prevented from commingling with other wastes. The waste shall not be covered with other waste prior to the receipt of these results. If the results indicate the waste needs to be treated prior to disposal it shall be moved to treatment or storage within five days of receipt of analytical results. Waste tracking shall be conducted in accordance with Attachment III-2, *Waste Identification and Tracking*.
- 7. If an analytical discrepancy cannot be resolved, the shipment shall be rejected. Rejected waste shipments shall be returned to the generator or forwarded to an appropriate treatment, storage or disposal facility, based on the generator's instructions.
 - 8. If it is determined that the waste with an analytical discrepancy had been misplaced, mislabeled, or otherwise mismanaged, or is actually another waste that had already been profiled for acceptance at the facility, such waste shall be properly labeled and accepted through the established tolerances for the correct waste. Investigation and corrective measures shall be implemented to ensure proper management of the affected waste.
 - 9. Notations shall be added to the WPR and Operating Record as necessary to reconcile the analytical discrepancy.
 - 10. An analytical data quality review shall be completed for all analytical data used in making disposal decisions.

VI. ANALYTICAL METHODS

- 1. Methods for the following WPR Analytical Parameters:
 - a. Determination of free liquids based on visual observation or Paint Filter Liquids Test, SW-846 9095 or promulgated SW-846 method.

This parameter was selected so that preparations for liquid waste management may be arranged or so that shipments with unexpected free liquids may be identified. During completion of the WPR, if the generator

determines, as a result of visual observation and knowledge of the waste, that free liquids are present or not present in the waste, then the test for free liquids need not be completed as a required test.

- b. pH, SW-846 9040 or promulgated SW-846 method.

This parameter was selected as a general profile parameter for liquid wastes.

- c. Applicable treatment standard parameters, promulgated SW-846 methods.

These parameters were selected to analyze the waste in terms of its applicable concentration-based treatment standards to show whether the waste meets those standards or would require treatment.

- d. Parameters for which the waste is hazardous or a descriptive declaration that the waste is hazardous and the basis for that determination.

These parameters or declarations were selected to analyze the waste in terms of its applicable hazardous waste codes. A generator may stipulate that a waste has hazardous waste codes without supporting analytical results so long as the basis for that determination is provided.

- e. Volatile organics and semi-volatile organics, SW-846 8260 and 8270 or promulgated SW-846 method.

These parameters or declarations were selected to analyze the waste in terms of its applicable hazardous waste codes. A generator may stipulate that a waste has hazardous waste codes without supporting analytical results so long as the basis for that determination is provided.

- f. The Permittee may include the results of other test methods as necessary to profile the waste.

2. Required incoming shipment off-site analyses:

- a. Total or TCLP metals analysis, promulgated SW-846 methods

These parameters provide verification of the metals content of the waste and verify that the hazardous waste codes for the corresponding characteristics for metals were properly established.

- b. Total and amenable cyanide, SW-846 9010 or 9012 or promulgated SW-846 method

These parameters provide verification of the cyanide content of the waste and verify that the hazardous waste codes for the corresponding characteristic for cyanides were properly established.

- c. Volatile and semi-volatile organics, possibly followed by TCLP for verification, SW-846 8260, SW-846 8270, or promulgated SW-846 method

These parameters provide verification of the organics content of the waste and verify that the hazardous waste codes for the corresponding characteristic for organics were properly established.

- d. The applicable concentration-based treatment standards, promulgated SW-846 methods

These parameters provide verification of the applicable treatment standards of the waste.

3. Required incoming shipment on-site analyses:

- a. Determination of free liquids based on Paint Filter Liquids Test (PFLT), SW-846 9095 or promulgated SW-846 method.

Non-debris waste intended for direct disposal is required to pass this parameter prior to disposal in the landfill cell. Failure of this test indicates a free liquids inspection discrepancy.

- b. Specific analytical methods are not required to be followed for liquid pH and photoionizer analyses.

- i. The liquid pH analysis may be performed in the field using a pH meter, litmus paper, or another applicable method.

- A. A field analysis indicating a pH less than four or greater than 10 shall be verified by sampling and analyzing within the on-site laboratory using a calibrated pH meter.

- ii. A calibrated instrument shall be used for the photoionizer analysis.

VII. SAMPLING QUALITY CONTROL REQUIREMENTS

1. Waste Sampling Requirements

- a. Required Sampling Methods:

- i. Personnel obtaining samples from incoming shipments may use guidance from the methods and comments outlined in 40 CFR 261 Appendix I in selecting which device to use.
 - ii. A sample from an incoming shipment shall be obtained by using one or more of the following devices: a shovel, spade, scoop, thief, trier, auger, sampling tube (Shelby or split tube), or using alternative methods as directed by the Laboratory Manager.
 - iii. Appropriate preservation shall be used for each sample, as specified in the applicable analytical method.
- b. Required Sample Collection:
- i. Samples to be analyzed for the parameters listed in Sections V.3 and V.5 of this WAP shall be collected as specified below. Compositing requirements are described in Section VII.2 of this WAP.
 - A. Bulk Railcar Shipments: Six aliquots from random locations, composited into one sample for off-site and PFLT analyses. One discrete sample collected from a random location for other on-site analyses.
 - B. Bulk Highway Shipments: Four aliquots from random locations composited into one sample for off-site and PFLT analyses. One discrete sample collected from a random location for other on-site analyses.
 - C. Container Shipments (rail or highway):
 - (1) For off-site and PFLT analyses (if required), one aliquot from each ten percent of the containers on a shipment composited into one sample, with a minimum of six aliquots from six different containers within the shipment. Where there are less than six containers in the shipment, the requirement is a minimum of six aliquots from different locations ensuring that at least one aliquot is taken from each container.
 - (2) For other on-site analyses, one discrete sample collected for each ten percent of the containers on a shipment.

- (3) Containers from which these samples are taken shall be randomly selected from all of the containers on a shipment.
- ii. For purposes of sampling and analysis, a highway shipment with a truck and a pup shall be considered two separate shipments. Each railcar shall be considered a separate shipment.
- iii. Random numbers shall be selected from Table II-1-1 of this WAP or from use of an electronic random number generator.
 - A. The containers on a shipment shall be numbered, or bulk waste “divided” into sampling sites that are assigned numbers.

For bulk sampling sites, a shipment shall be “divided” into somewhat equal volumes to include possible sampling locations at varying depths in the bulk shipment. The length, width, and depth dimension for rail car divisions shall be made so that there are approximately 40 “divided” volumes of equal size including volumes at different depths. When objects are shipped as bulk in a rail car, the objects may be used for random selection.

For bulk highway shipments, a shipment is similarly divided so that there are approximately 12 volumes including volumes with varying depths in the shipment.
 - B. A digit from the random number table shall be selected.
 - C. Starting from the selected digit and reading from that point on the table, two-digit random numbers are identified. Identified random numbers that match container numbers or bulk location numbers shall be selected in order to obtain the required number of samples or aliquots.
 - D. Samples or aliquots shall be obtained from containers or bulk location sites with numbers that match the selected random number.
 - E. The random numbers selected for sampling shall be documented in the Operating Record.
- iv. Sample containers shall be closed, labeled, and delivered to the on-site laboratory for sample preparation. Care shall be taken to keep

samples from being exposed to environments of extreme heat, moisture, or solar radiation, etc.

c. Containment of a Sample

- i. Samples for off-site analyses shall be placed in glass containers.
- ii. Samples for on-site analysis may be placed in glass or plastic containers.
- iii. A sample container shall have the following characteristics:
 - A. The container shall be free from contaminants to a degree that a false positive or a false negative outcome for waste management would not be produced, based on the results of analysis, compared to an uncontaminated container.
 - B. The container shall be plastic or glass and able to withstand routine sampling procedures without being destroyed in the process.
 - C. The container shall be of a volume comparable to the volume of the sample to be taken. Specifically, non-debris samples shall not be less than 20% of the working volume of the container.
 - D. The container shall be able to be closed in such a manner that material may not enter or escape the closed container.

d. Sample labeling

- i. Sample labels or markings shall be affixed to or provided on the sample container at the time of sampling.
- ii. Sample labels shall include the following information:
 - A. the Generator Number,
 - B. the Bates Number or Shipment Number,
 - C. the date and time of sample collection,
 - D. the initials of the sample collector, and
 - E. the container number or sample location.

e. Sampling Safety

- i. Safe sampling practices shall be employed for the gathering of all samples. Safe work practices shall be followed during all waste

shipment sampling activities including but not limited to the wearing of appropriate:

- A. protective clothing,
 - B. shoes,
 - C. gloves,
 - D. hard hat,
 - E. respirators, and
 - F. protective eye wear.
- ii. Sampling shall be performed after personnel have checked the manifest and are familiar with the WPR.
- f. Sample Equipment Decontamination
 - i. After each sampling event, the sampling equipment shall be decontaminated, as necessary, to ensure that it is visually free of any residue and to prevent the potential for cross-contamination with future samples.
 - ii. Waste generated during decontamination shall be placed back with the generator's waste, or managed as the Permittee's waste.
 - g. Chain-of-Custody
 - i. Samples shall remain under chain-of-custody management.
 - ii. A chain-of-custody record shall be completed by the sampler prior to relinquishing custody of the sample. The following requirements shall apply to the chain-of-custody record:
 - A. The chain-of-custody record shall accompany the sample until final disposition.
 - B. As the information becomes available, the following information shall be provided on the chain-of-custody record:
 - (1) Name of the sample collector
 - (2) Signature of the sample collector
 - (3) Date and time of sample collection
 - (4) Generator Number
 - (5) Waste Stream Number
 - (6) Bates Number or shipment number
 - (7) Signature of each sample custodian
 - (8) Date and time of changes of custodianship

- (9) Date and time the sample was received at the laboratory
 - (10) Sample type (composite, discrete)
 - (11) Preservation (if necessary)
 - C. Copies of chain-of-custody records shall be kept in the Operating Record for a period of five years.
 - iii. Seals shall be required if a sample leaves the sample collector's custody prior to receipt of the sample at the laboratory.
 - A. When a paper or tape seal is used, the following information shall be provided on the seal:
 - (1) The sampler's initials
 - (2) The date of sample being sealed
 - B. When seals are used, the seals shall be affixed to the sample container or package to secure the opening before the sample leaves the custody of the sample collector.
 - iv. For chain-of-custody management, a sample shall be considered in custody when one or more of the following conditions are met:
 - A. The sample is in the custodian's physical possession.
 - B. The sample or sample container is in view of the custodian.
 - C. The sample is secured or monitored by the custodian so that no one can gain access to the sample without being detected by the custodian.
 - v. Once the sample has been taken to the on-site laboratory, its receipt shall be recorded in the operating record.
2. Sample Compositing Requirements
- a. For samples requiring off-site chemical analyses, compositing shall be performed within the on-site laboratory.
 - b. Sample aliquots collected in the field shall be composited in the on-site laboratory by mixing the aliquots in a stainless steel, glass, or brass bowl using a stainless steel, glass, or brass mixing device.

- c. After mixing has been completed, a sample shall be taken from the mixture and transferred into an appropriate container as specified by the applicable analytical method.
 - d. Additional requirements for samples requiring volatile analysis:
 - i. Sample transfer shall take place within five minutes of the completion of the compositing process.
 - ii. The volatile sub-sample shall be the first sample transferred from the composite mixture.
 - iii. The volatile sub-sample shall be taken from the center of the waste mixture.
 - iv. The sample container shall be immediately capped off, minimizing the amount of headspace in the container.
 - e. Compositing of aliquots for a PFLT analysis may be completed in the field or the on-site laboratory by placing the collected aliquots in a container or mixing bowl and mixing them until the sample material is thoroughly mixed.
3. Calibration Requirements
- a. The photoionization detector and pH meter shall be calibrated prior to the first sample analysis of the day, and again every 3 hours or 10 analyses.
 - b. Standards used in calibration shall be checked prior to the first analysis of the day to ensure that the expiration dates have not been exceeded.
 - c. Calibrations shall be recorded in the laboratory notebook.
4. Required Preventive Maintenance:
- a. A record shall be kept of maintenance records for the pH meter and the photoionization detector documenting that the equipment has been maintained in accordance with the manufacturer's recommended maintenance procedures and frequency.

TABLE II-1-1
 RANDOM NUMBERS

10480	15011	01536	02011	81647	91646	69179	14194	62590
22368	46573	25595	85393	30995	89198	27982	53402	93965
24130	48360	22527	97625	76393	64809	15179	24830	49340
42167	93083	06243	61680	07856	16376	39440	53537	71341
37570	39975	81837	16656	06121	91782	60168	81305	49684
77921	06907	11008	42751	27756	53498	18602	70659	90655
99562	72905	56420	69994	98872	31016	71194	18738	44013
96301	91977	05463	07972	18876	20922	94595	56869	69014
89579	14342	63661	10281	17453	18103	57740	84378	25331
85475	36857	53342	53988	53060	59533	38867	62300	08158
28918	69578	88231	33276	70997	79936	56865	05859	90106
63553	40961	48235	03427	49626	69445	18663	72695	52180
09429	93969	52636	92737	88974	33488	36320	17617	30015
10365	61129	87529	85689	48237	52267	67689	93394	01511
07119	97336	71048	08178	77233	13916	47564	81056	97735
51085	12765	51821	51259	77452	16308	60756	92144	49442
02368	21382	52404	60268	89368	19885	55322	44819	01188
01001	54092	33362	94904	31273	04146	18594	29852	71585
52162	53916	46369	58586	23216	14513	83149	98736	23495
07056	97628	33787	09998	42698	06691	76988	13602	51851
48663	91245	85828	14346	09172	30168	90229	04734	59193
54164	58492	22421	74103	47070	25306	76468	26384	58151
32639	32363	05597	24200	13363	38005	94342	28728	35806
29334	27001	87637	87308	58731	00256	45834	15398	46557
02488	33062	28834	07351	19731	92420	60952	61280	50001
81525	72295	04839	96423	24878	82651	66566	14778	76797
29676	20591	68086	26432	56901	20849	89768	81536	86645
00742	57392	39064	66432	84673	40027	32832	61362	98947
05366	04213	25669	26422	44407	44048	37937	63904	45766
91921	26418	64117	94305	26766	25940	39972	22209	71500
00582	04711	87917	77341	42206	35126	74087	99547	81817
00725	69884	62797	56170	86324	88072	76222	36086	84637
69011	65795	95876	55293	18988	27354	26575	08625	40801
25976	57948	29888	88604	67917	48708	18912	82271	65424
09763	83473	73577	12908	30883	18317	28290	35797	05998
91567	42595	27958	30134	04024	86385	29880	99730	55536
17955	56349	90999	49127	20044	59931	06115	20542	18059
46503	18584	18845	49618	02304	51038	20655	58727	28168
92157	89634	94824	78171	84610	82834	09922	25417	44137
14577	62765	35605	81263	39667	47358	56873	56307	61607
98427	07523	33362	64270	01638	82477	66969	98420	04880
34914	63976	88720	82765	34476	17032	87589	40836	32427
70060	28277	39475	46473	23219	53416	94970	25832	69975
53976	54914	06990	67245	68350	82948	11398	42878	80287
76072	29515	40980	07391	58745	25774	22987	80059	39911
90725	52210	83974	29992	65831	38857	50490	83765	55657
64364	67412	33339	31926	14883	24413	59744	92351	97473
08962	00358	31662	25388	61642	34072	81249	35648	56891
95012	68379	93526	70765	10592	04542	76463	54328	02349
15664	10493	20492	38931	91132	21999	59516	81652	27195