

Triumvirate Environmental Services, Inc.

Waste Analysis Plan
&
Waste Compatibility and Test Manual

Contents

1.0 INTRODUCTION/PURPOSE	4
2.0 FACILITY DESCRIPTION.....	4
3.0 MANAGEMENT OF INBOUND WASTE STREAMS	5
4.0 OBJECTIVES OF THE WASTE ANALYSIS PLAN	5
5.0 WASTE APPROVAL PROCESS.....	6
5.1 Waste Evaluation Documents	7
5.2 Information on The Profile.....	7
5.3 Supporting Documents.....	10
5.4 Assignment of Process Codes	11
5.5 Review and Approval of Records	12
6.0 WASTE VERIFICATION PROCESS	12
6.1 Consolidation/Bulking	14
6.2 Re-Packaged Wastes	14
6.3 Treatment	15
Initial Analysis of Untreated Waste:	15
Post-Analysis of Treated Waste:	15
7.0 MANAGEMENT OF NON-CONFORMING WASTES	16
8.0 MANAGEMENT OF USED OIL	16
8.1 Analysis.....	16
8.2 On Specification Used Oil.....	17
9.0 EVALUATION OF WASTES FOR SHIPMENT	18
9.1 Consolidated and Repackaged Wastes	18
9.2 Treated Wastes	19
10.0 LABPACKS.....	19
10.1 Waste Profile Form for Labpacks	20
10.2 Evaluation of Wastes in Labpacks	20
10.3 Classification and Segregation of Wastes in Labpacks	20
11.0 WASTES PERMITTED AND PROHIBITED	20
12.0 FREQUENCY OF ANALYSIS.....	21
13.0 SAMPLING METHODS	22
Initial Analysis of Untreated Waste:	22
Post-Analysis of Treated Waste:.....	23

14.0 ANALYTICAL METHODS	23
15.0 COMPATIBILITY TEST METHODS	24
16.0 RECORDKEEPING.....	24
TABLE II.A.4.B.-3	24
TABLE II.A.5/6-2.....	84
TABLE II.A.5/6-3.....	85
TABLE II.A.5/6-4.....	86
EXHIBIT II.A.5/6.-1: WASTE MATERIAL PROFILE FORM	87
EXHIBIT II.A.5/6.-2: COMPLIANCE REVIEW FORM	88
EXHIBIT II.A.5/6.-3: NOTICE OF APPROVAL LETTER.....	90
EXHIBIT II.A.5/6.-4: LABPACK/DRUM INVENTORY FORM	91

WASTE ANALYSIS PLAN

1.0 Introduction/Purpose

This Waste Analysis Plan will be followed to properly characterize hazardous wastes accepted at the facility. Under 40 CFR 270.14(b)(3), a hazardous waste management facility is required to develop and follow a Waste Analysis Plan (WAP) that meets the requirements of 40 CFR 264.13 (b) and (c).

This WAP describes the procedures and operations that will be utilized to determine the physical and chemical characteristics of the waste. This information is necessary to manage the waste in a safe and effective manner. Chemical and physical parameters are identified in accordance with this plan. Using the chemical and physical parameters the waste can be classified based on the hazards, regulatory status, and requirements for storage, treatment, and disposal. This plan describes the evaluation process that is followed to approve the waste for receipt by the facility, the system used to verify that the waste conforms to the specifications of the Waste Profile, and the methods utilized to manage the waste. The plan also describes the procedure used to evaluate the waste after it has been treated at the facility. The plan also details the procedures to obtain the necessary information to ship the waste to off-site facilities for treatment or disposal.

2.0 Facility Description

Triumvirate Environmental Services, Inc. manages hazardous and non-hazardous wastes onsite at the facility and does not have on-site generated wastes except for conditionally exempt small quantities of expired materials such as paints and cleaners. Triumvirate Environmental Services, Inc. also operates a 10-day transfer station, and manages used oil, oily water, or antifreeze in the one double compartment tank. Waste permitted at Triumvirate Environmental Services, Inc. include D, F, P, U, and K codes (40 CFR 261.31, 40 CFR 261.32, 40 CFR 261.33 and 40 CFR Part 261 Subpart C). Wastes prohibited at Triumvirate Environmental Services, Inc. are; forbidden materials in the hazardous materials table, DOT explosives, temperature controlled material, radioactive materials, listed self-reactive materials, organic peroxides type A and B listed in the HMT and defined at 49 CFR 173.128, and organic peroxides types C, D, E, and F defined in 49 CFR 173.128 and listed in the HMT requiring temperature control.

Wastes accepted at Triumvirate Environmental Services, Inc. are stored, consolidated, repacked, or treated. All storage is in containers, including waste managed through the 10-day transfer area. Consolidation consists of pouring containers together into shippable drums. Repackaging consists of removing inner containers from outer containers and placing them in appropriate containers for outbound shipments. Treatment consists of stabilization of wastes in roll-off boxes with cement or other suitable material approved by The Department.

Wastes that are identified as hazardous will meet the criteria set forth under the EPA regulations and in the waste approval process identified in this plan.

3.0 Management of Inbound Waste Streams

Upon determination that the waste characterization meets the acceptance criteria for management at the facility, appropriate process codes are assigned to manage the waste. The management method is dictated by the physical and chemical characteristics of the waste. Inbound wastes are managed in accordance with one of four activities: (1) storage in the facility until transported off-site in the same containers that were used for transport into the facility, (2) consolidation into larger containers, (3) repackaging of the wastes, (4) or stabilizing the wastes. Wastes that are stabilized are sent to a subtitle D landfill. Wastes that cannot be stabilized at the facility are shipped to off-site facilities for treatment or disposal. Wastes of similar chemical and physical characteristics maybe consolidated. Compatible wastes may be re-packaged. Wastes that are not treated, consolidated, or repackaged are stored onsite and shipped out in the same container that was used to transport the waste into the facility. The management method for the waste is indicated by a process code, which identifies how the waste will be managed onsite and shipped off site.

Triumvirate Environmental Services, Inc. is knowledgeable and diligent in complying with DOT and RCRA requirements. DOT regulations include proper marking, labeling, placarding, and packaging of hazardous materials and wastes. The DOT description is required for marking the hazardous waste label affixed to the container, selecting the proper DOT label, and placarding in compliance with 40 CFR 262.31 through 262.33. The DOT description is also needed to complete the manifest. Segregation and separation of the wastes during transportation and storage is determined in accordance with the hazard class shown in the DOT description. Information contained in the DOT description identifies wastes exhibiting special hazards. Special hazards consist of explosive, radioactive, and some highly reactive chemicals. Triumvirate Environmental Services, Inc. does not accept waste that is considered a special hazard. Waste that is not permitted is rejected and the materials may be sent back to the generator or to a facility that is permitted to accept the waste provided that all proper documentation, labels, and shipping papers are provided by the generator to the end disposal facility.

4.0 Objectives of the Waste Analysis Plan

The waste analysis plan consists of a uniform set of instructions that have been prepared to:

- a. Evaluate the waste for approval with procedures for qualifying, accepting, and analyzing the contents of each waste container;
- b. Contain the information that will be required to characterize the waste;
- c. Identify the waste verification process;
- d. Document the recordkeeping and reporting procedures;

- e. Ensure that it can be managed by the prescribed operation or process at the facility;
- f. Determine the wastes' regulatory status after it has been treated at the facility in preparation for shipment to off-site facilities and;
- g. Test methods used to obtain samples, and a quality assurance quality control program.

5.0 Waste Approval Process

Before waste is accepted at Triumvirate Environmental Services, Inc., the waste characteristics must be evaluated and approved. The approval must contain all of the information so that the waste can be properly treated, consolidated, repackaged or stored in accordance with 40 CFR Part 264 or disposed in accordance with the Land Disposal Restriction (LDR) program. The approval process includes; (1) collecting a representative sample and conducting laboratory analysis or (2) evaluation of published data and generator knowledge of the waste generating process. Conducting a waste analysis using published data and generator knowledge of the waste generating process can be referred to as acceptable knowledge, generator knowledge, or process knowledge. In this WAP the term acceptable knowledge will be used.

Acceptable knowledge consists of reviewing information pertaining to the waste stream in question and determining its regulatory status, special hazards, and the applicable process code. The waste stream information is provided in a waste profile form (The Profile) shown in Exhibit II. A.5/6.-1 and, if it is a lab-pack, information is detailed on lab-pack inventory sheets shown in Exhibit II.A.5/6.-4.

When acceptable knowledge is used for waste determinations Triumvirate Environmental Services, Inc. uses the following checklist:

- (1) Is published data as current as practicable?
- (2) Do materials balances, if used, include the following information (among other things):
 - Raw ingredients descriptions and physical and chemical properties
 - Physical and chemical processes involved prior to and during generation
 - Intermediate products
 - Materials added and removed during the process?
- (3) Does the generator review its original acceptable knowledge determination annually, randomly, and whenever the generating process/waste changes or the TSDF finds a nonconformance?
- (4) Does the generator understand the potential changes in the waste and its classification due to environmental factors or spontaneous changes?

(5) Are records being kept demonstrating that periodic reviews are being conducted?

5.1 Waste Evaluation Documents

The waste evaluation documents consist of the paperwork that should be completed and submitted by the generator to the facility for a waste approval determination. The paperwork is the waste material profile form (The Profile), which describes the chemical and physical characteristics of the waste and other information that is pertinent for establishing the regulatory status of the waste. When the facility accepts lab-pack waste the lab-pack inventory sheet is used for the approval process in place of The Profile. An example copy of The Profile is included in Exhibit II.A.5/6.-1 and the lab-pack inventory sheet is located in section II.A.5/6-4. In certain cases, only a completed profile form is needed to conduct the approval process, such as when the waste material consists of a discarded virgin material, or media that has been contaminated with a virgin material and a Safety Data Sheet (SDS) for the contaminating material is available in the facility's data base. SDSs for the chemical compounds or products involved are required to support the information contained in the profile when the SDSs are not available in the facility's data base. When an SDS is not available or when it is necessary to clarify information shown in an SDS, other technical information obtained from chemical dictionaries or product literature may be used for the waste determination. Analysis reports are required to support information provided in the profile when there is a need to verify that regulatory concentration levels have not been exceeded or to establish the absence of hazardous constituents that may reasonably be expected to be present in the waste. The waste evaluation documents may include, as applicable, the profile, SDSs, analysis reports, and technical information submitted to support a request for approval of a waste stream for management at the facility.

5.2 Information on The Profile

The example waste material profile form included in Exhibit II.A.5/6.-1 contains several sections for information about the generator, the waste, and the packaging of the waste. The profile form referenced above may be subject to future modifications to accommodate new requirements, or to make the form easier to complete. The information required in the form for use in evaluating the waste as described in the waste approval process, will remain unchanged. The following discussion explains the criteria used for reviewing information contained in the profile form and for determining regulatory status and hazards of the waste. Only those parts in the profile form relevant for the evaluation of the waste are discussed here.

Part B of the Profile - Common Name of Waste:

Information used in the approval process is indicated here such as SDS's and analytical data. Information for how the waste was generated (process generating waste) and information for proper characterization is also included. The section also includes the process code, which dictates how the waste will be handled onsite at Triumvirate Environmental Services, Inc. In this section, the shipment method meaning drums, totes, sizes, and yearly volume is also indicated.

Part C of the Profile – Physical Properties

This part of the profile contains information about ignitability, corrosivity, and physical state of the waste, which is necessary to establish the regulatory status for environmental management and transportation. It also provides data about chemical and physical parameters, which are important to determine the proper treatment, analytical methods, and operational procedures for the waste. This part requires several boxes to be completed addressing the following issues:

Odor is a relevant factor when handling certain chemicals because of problems caused by the emission of strong odors. Waste containing mercaptans and ammonia are studied carefully to ensure that emission problems for personnel at the site and at neighboring sites will not be created.

Separated layers corroborate the presence of multiphase components listed in the profile form and indicate caution regarding test results which may not reflect the waste mixture due to improper sampling techniques.

The amount of sludge in a waste is a significant factor to determine if non-sludge and sludge components need to be handled or characterized separately.

The flash point of a waste determines if it is hazardous waste due to ignitability and its DOT description due to flammability.

Specific gravity helps corroborate information provided about the composition of the waste.

The pH value determines the corrosivity of the waste and can indicate regulatory status

The amount of water in a waste is an important factor to take into consideration for stabilization operations, and to determine if the untreated waste can be directly shipped to off-site fuel blenders/users.

The concentration of halogens is a significant parameter to determine if the untreated waste can be directly shipped to off-site fuel blenders/users.

Heating value of the waste determines if the untreated waste can be directly shipped to off-site fuel blenders/users.

Information about the presence of free liquids is necessary for assigning the waste code that denotes corrosivity and the proper shipping name.

Part D – Waste Composition

The part is reviewed for the description of the constituents that make up the waste and it has approximate ranges for the percent of constituents. If a generic name is used either an SDS will be available at the facility or it will be attached to the profile.

The name and proportional amount of the constituents of the waste must be listed in this part of the profile. Constituents containing toxic components regulated in 261.24 (D004-D043) must be listed in this part. A study of the properties of the chemical components shown in this part, along with respective proportional amounts in the waste, may provide a rough estimate of the resulting characteristics exhibited by the waste. For example, large proportions of flammable or corrosive components most likely will result in a flammable or corrosive waste, respectively.

Part G – Metals

This part is reviewed for TCLP and or totals information on the metals in the waste. This section includes information for D004-D011 and copper, zinc and nickel.

Part E – Hazardous Properties

This part of the profile is designed to identify hazardous characteristics that are considered special hazards, and to describe the type of reactivity exhibited by the materials. This part of the profile also requests information about PCBs, which are regulated by the Toxic Substance and Control Act (TSCA). National Emission Standards for Hazardous Air Pollutants is also included in this section and this information is needed to satisfy requirements in the Clean Air Act.

Part H - Other Compounds.

This part is reviewed for TCLP or Totals information for hazardous waste codes D012-D043.

Part F – DOT Shipping Name

The DOT description that should be entered in this part is one of those found in 49 CFR 172.101, the Hazardous Materials Table (HMT). The DOT description's hazard class and packing group are to be selected in accordance with requirements in the 49 CFR Part 173 and depend on the characteristics of the waste determined from information throughout The Profile. Excluding wastes whose proper shipping name is hazardous waste liquid or solid, the two major components in the waste to be included in this part are the most predominant ones used for establishing the primary and subsidiary hazards of the waste listed in column (6) of the HMT.

This section contains spaces to enter the EPA hazardous waste codes that are determined from information provided in the following parts of the profile.

D001 → Constituents listed in part D of The Profile meeting the definition of ignitability as defined by 40 CFR 261.21

D002 → Constituents listed in part D of The Profile meeting the definition of corrosivity as defined by 40 CFR 261.22

D003 → Constituents listed in part D of The Profile meeting the definition of reactivity as defined by 40 CFR 261.23

D004 - D043: Constituents listed in part D or H of The Profile meeting the definition of D004-D043 hazardous waste codes

F001 — F039: Spent solvents should be listed in part D. Electroplating, conversion coating and metal heat treating sludges, plating, quenching, spent cyanide, and stripping bath solutions and residues should be identified as such, and the heavy metal and cyanide contaminants listed in part D. Products, process wastes, and manufacturing intermediates that either contain or result from the production of chlorophenols, chlorobenzenes, and chlorinated aliphatic hydrocarbons should be described in part B and have the components listed in part D. Wood preserving formulations and wastes, petroleum refinery separation sludges, and landfill leachate should be identified in part B and have the constituents listed in part D.

K001 - K148: Hazardous wastes from specific sources should be described in part B and have the contaminants listed in part D.

P001 – P205 Acute hazardous wastes consisting of discarded and off-specification chemical products, manufacturing intermediates, and container and spill residues should be identified in part C and have the components listed in D.

U001 – U411: Toxic hazardous wastes consisting of discarded and off-specification chemical products, manufacturing intermediates, and container and spill residues should have the components listed in part D.

5.3 Supporting Documents

Supporting documents include analysis reports, SDSs, and other technical information used to establish the presence and concentration levels of hazardous constituents and the characteristics of the waste. SDSs are not solely used to make hazardous waste determinations largely because SDSs normally list constituents at a minimum of 10,000 mg/kg. Analysis may be required when information provided in the profile indicates a deviation from a commonly received waste stream. This would trigger a need to verify concentration levels of hazardous constituents in the waste, and a need to determine the actual hazardous characteristics exhibited by the waste. The need for requesting analysis reports is based on the criteria described below:

When materials described in of The Profile indicate the presence of significant amounts of certain hazardous constituents whose characteristics are not reflected in hazardous waste codes assigned to the waste.

When parameters indicated in parts G and H of the profile do not coincide with the properties of predominant components listed in part D.

When concentration levels indicated for constituents shown in part D of the profile do not correspond to the proportional amounts for such constituents shown in parts G and H.

When historical experience or technical information suggests that certain hazardous constituents or characteristics are not addressed in parts of the profile and they may be present in the waste.

When the profile shows a lack of information necessary to determine the regulatory status and hazards posed by the waste.

SDSs are required when part D of the profile lists chemical compounds and products for which SDSs are not available at the facility. Unless the component of the waste is a well-known and widely used chemical compound, an SDS for the component should be submitted with the profile form when one is not available at the facility. The facility has access to an extensive SDS library on the internet. Chemical dictionaries and product literature may be utilized as an alternative for an SDS when necessary.

The profile form and supporting documents described above constitute the waste evaluation documents that are used to review and approve the waste streams before shipment to the facility. The evaluation process explained above is the procedure used to review the documents from a regulatory standpoint. The waste stream must have an assigned process code before this process is complete. However, the assignment of a process code does not affect approval of the waste for receipt by the facility. When assigning the process code waste evaluation documents undergo other reviews related to operational and marketing issues. A review addressing operational issues is conducted by the facility with the following concerns:

Contaminates from commonly accepted waste streams/processes must match the contaminants that would typically be expected in such waste streams

Contaminates in the waste group must be capable of being treated using the same process

Wastes in the group must be compatible with each other

Hazardous waste codes assigned to the waste must be accurate for the type of waste in consideration

The outbound profile, which identifies the outbound waste stream that has been approved for management at an off-site facility, is assigned after the waste has been accepted and reviewed at Triumvirate Environmental Services, Inc.

5.4 Assignment of Process Codes

The facility has established a number of process codes which designate how the waste will be managed at Triumvirate Environmental Services, Inc. The process codes correspond to storage, consolidation, repacking, treatment, as well as the technology and treatment facility that will handle the waste material. When a profile is reviewed an inbound process code is assigned to the waste material. The assignment of the process code is dependent on a review of The Profile by a competent employee at Triumvirate Environmental Services, Inc. Continuously, process codes are updated based on facility requirements, and therefore any list of process codes that would be submitted would not be up to date.

Management methods of waste are determined through characteristics and properties including:

- Hazards such as corrosivity and flash point.
- That contaminants in the waste are capable of being treated using the same process.
- Compatibility of the waste(s)

Consolidation may be utilized for wastes including alkaline corrosives, fuel blendable (contingent upon facility NFPA upgrades), electroplating sludge's, and other widely generated wastes that contain a specific group of contaminants. Triumvirate Environmental Services, Inc. will not consolidate acids, oxidizers, reactives (D003), or poison inhalation hazards under any circumstances. Compatible chemicals may be consolidated in accordance with The Waste Compatibility and Test Manual. The Waste Compatibility and Test Manual includes a review of chemical literature and waste characteristics.

Every management activity requires the implementation of specific procedures in the waste analysis plan for inspecting the waste received to verify that the waste conforms to the specifications of the waste that was approved and for testing the waste to ensure that it may be managed by the prescribed operation or process at the facility.

5.5 Review and Approval of Records

The outcome of the review conducted in accordance with the procedures described in the previous paragraphs is recorded in the Compliance Review form included in Exhibit II.A.5/6.-2. This form is used to indicate deficiencies or discrepancies found in the evaluation documents. Once the deficiencies or discrepancies described in the form have been addressed in the evaluation documents, and the permit allows the waste to be managed at the facility, the decision to approve the waste for receipt at the facility or reject it is noted on the form. The Compliance Review form is filed with the waste profile form and supporting documents and is also used to conduct waste stream verification.

The generator is notified that the waste stream has been approved for shipment to the facility with a form letter known as the notice of approval, an example of which is shown in Exhibit II.A.5/6.-3. The approval letter shows the EPA and DOT regulatory status that apply to the waste in question, as well as the notices required by 40 CFR 264.12. The form letter also shows an inbound approval code. This code is the most important piece of data used to identify any waste stream managed at the facility. The notice of approval letter is part of the waste evaluation documents kept in files at the facility.

6.0 Waste Verification Process

This part of the waste analysis plan describes the procedures used to verify that wastes received at the facility conform to the profile. The procedures used to test incoming wastes depend on the management methods that are going to be used to process the waste at the

facility. These management methods are identified by the process code that has been assigned to the waste. This process addresses three issues:

- Compatibility of the incoming wastes with other wastes that have the same process code
- Assurance of treatability by the prescribed process code.
- Procedures used to address non -conforming wastes.

During the waste approval process, information on the waste is reviewed to ensure that it is compatible with other wastes having the same process code. The discovery that the incoming waste is not compatible with other wastes in the same group is an indication that the waste received does not conform to the information provided in the evaluation documents. Upon determination that the incoming waste does not conform to information provided in the evaluation documents, another set of procedures is initiated, resulting in either shipping the waste back to the generator or to an alternate facility, as instructed by the generator, or in amending the evaluation documents to reflect the discrepancies discovered by the verification process.

The waste approval process is repeated as necessary to ensure that it is up to date. At a minimum, the analysis must be repeated:

(1) When the owner or operator is notified, or has reason to believe, that the process or operation generating the hazardous wastes, or non-hazardous wastes if applicable under 40 CFR 264/265.113(d) has changed; and

(2) For off-site facilities, when the evaluation of incoming shipments, indicates that the waste received at the facility does not match the waste designated on the accompanying manifest or shipping paper.

To verify conformance with The Profile Triumvirate Environmental Services, Inc. will verify incoming waste streams. However, the testing requirements may be removed if:

1. Additional hazards are created by inspecting the waste stream Triumvirate Environmental Services, Inc. will not open the container(s). Examples would be inhalation hazards and air-reactive materials.
2. Triumvirate Environmental Services, Inc. prepares and seals the waste for shipment. Triumvirate Environmental Services, Inc. has an ongoing on-site program established with certain generators and it is directly involved in managing the waste collection process. This information is noted on the inspection form and if the drums are received with seals intact, the hazardous waste will not be re-analyzed upon receipt at the facility.
3. Lab-Packs and inner containers packaged by Triumvirate Environmental Services, Inc. will have the packing slip reviewed for DOT and RCRA regulations. The containers will not be opened because they were packaged by trained Triumvirate Environmental Services, Inc. staff.

Notwithstanding the above, all containers are inspected for color and physical state. Ten percent of hazardous wastes that are accepted at Triumvirate Environmental Services, Inc. undergo a quality control, quality assurance (QA/QC) analysis. This QA/QC consists of an analysis to confirm matching characteristics such as pH, specific gravity, flash point, halogen content, and or percent water. Verification of waste using an off-site laboratory will be completed when discrepancies are found. Verification will be documented on the form in Exhibit II.A.5/6.-2. The parameters below are used to identify acceptance procedures for Triumvirate Environmental Services, Inc.

- 100 percent visual inspection for color and physical state.
- Ten Percent QA/QC of each waste stream shipment for each generator
- Using a tiered approach for analyzing incoming shipments, whereby all shipments are inspected and non-conformances between shipment and profiles trigger a mandatory comprehensive analysis to resolve it and update the profile (or create a new one) if needed.
- Documenting tolerance limits for at least one QA QC parameter based on the operating requirements of the facility's management systems. An example is if the pH of an incoming shipment falls outside the regulatory range, causing a regulatory status change for the waste stream
- Visually inspecting lab packs is an acceptable alternative to QA QC for them (e.g. open the containers and verify their contents and packing materials) and reviewing their inventories.

6.1 Consolidation/Bulking

Wastes of the same type are approved at Triumvirate Environmental Services, Inc. for consolidation into common containers. The containers are shipped off-site for treatment or disposal of the consolidated wastes. Wastes of the same type consist of materials that can be treated or disposed of by using the same method of treatment or disposal. Wastes for consolidation come in container sizes that vary from a cubic yard box to 55-gallon drums to containers having a volume equal to or greater than one gallon. Wastes accepted for consolidation come from many sources, which create concern about compatibility of commingling wastes in the consolidation container. Therefore, incoming waste streams should be tested for compatibility in accordance with procedures contained in Attachment II.A.5/6.-1 before being commingled for consolidation. Containers that are consolidated into a new drum will have the date of the oldest container that was consolidated into the drum. Triumvirate Environmental Services, Inc. must remove containers within one year from the time the earliest (consolidation) container enters the facility. When a container, older than the consolidation container is mixed or added to the drum, the drum is re-labeled with the oldest date.

6.2 Re-Packaged Wastes

Compatible inner containers may be re-packaged in DOT shippable containers to commingle compatible wastes. Any container that is re-packaged will not be opened and will be placed inside the outer container in its original, sealed, container. These inner containers will come

from lab-packed material that has been sorted and approved to be packaged in the same container per DOT and RCRA regulations.

6.3 Treatment

The testing and analysis of treated wastes is described here. Treatment operations will consist of mixing stabilization agents with metal contaminated material and will be performed inside a container such as a roll-off box. The procedures to complete the treatment are located in the containers section (Part II.B) of the permit application. Only materials of similar consistency that are less than 60mm (non-debris) particulate size will be treated. These materials will be received in drums or roll-off containers. An example would be sandblast grit contaminated with lead. Treatment will be performed on wastes that fail to meet Universal Treatment Standards (40 CFR 268.48 Table UTS) for RCRA Metals (D004-D008, D010-D011) only. Wastes that are involved in treatment operations will undergo two sets of analysis:

Initial Analysis of Untreated Waste:

Initial testing of Underlying Hazardous Constituents (UHCs) will be performed by collecting a 5-point composite sample. This sample will be taken before treatment at the client site or at the Triumvirate Environmental Services, Inc. facility. The composite sample will be analyzed for TCLP metals, and other suspected UHCs, in order to determine the initial metals' concentrations prior to treatment. Wastes that fail to meet UTS for constituents other than the RCRA metals (D004-D008, D010-D011) and mercury will not be eligible for treatment. Soils may be initially tested to determine UHCs and contaminant levels.

Post-Analysis of Treated Waste:

After treatment, all batches will undergo TCLP analysis to verify that the concentrations of RCRA metals are below the Universal Treatment Standards for metals (D004-D008, D010-D011) and no longer exhibit hazardous waste characteristics. A grab sample will be collected for the TCLP analysis.

For soils, the alternative treatment standard may be applied according to 40 CFR 268.49. Post analysis will be conducted to confirm compliance with the 90% reduction (capped by 10X UTS) option, or 10X UTS option. If after the 90% reduction, or the 10X UTS option, the results in a concentration indicate that the waste is still characteristically hazardous for toxicity, the waste will be sent to a Subtitle C landfill for disposal. See Table II.A.5/6-4 for treatment levels.

All treated waste that are de-characterized and meet the appropriate treatment standards will be sent to a permitted Subtitle D landfill. Any waste that fails to meet applicable treatment standards or exhibits hazardous waste characteristics will be shipped to a permitted TSDF for disposal.

7.0 Management of Non-Conforming Wastes

When inbound waste streams are tested and inspected in accordance with the procedures described in the preceding paragraphs and are found not to conform to information provided in the waste profile evaluation documents, these waste streams are subject to the procedures explained below. Regulations in 40 CFR 264.72(c) indicate the facility may resolve discrepancies in waste types within 15 days from the date the waste in question was received and if not resolved the FDEP must be notified. The first step to resolve a discrepancy created by a non-conforming waste is to obtain instructions from the generator indicating whether the waste should be returned to the generator or an amendment to the waste evaluation documents to correct the deficiencies discovered by the verification process is possible. If the generator chooses to amend the evaluation documents, the waste profile must be modified by the generator and, depending on the nature of the discrepancy, additional analyses or SDSs may be required. If it is found that the waste can be processed by Triumvirate Environmental Services, Inc., under its permit, a corrected letter of approval is issued, and processing of the waste is initiated. If efforts to resolve the discrepancy determine the waste should be assigned waste codes not permitted at the facility, or that the waste exhibits characteristics prohibited at the facility, the waste in question must be rejected by Triumvirate Environmental Services, Inc. Under instructions from the generator, the facility has the option to ship the waste back to the generator or to manage the waste under the transfer facility provisions of Rule 62-730.171 F.A.C., which requires shipment of the waste to an off-site facility within ten days after the discovery date. Waste exhibiting characteristics prohibited at the facility are shipped out immediately after discovery as specified by the generator.

8.0 Management of Used Oil

Used Oil is received from pump trucks, DOT-approved drums, or tanker trailers from generators such as companies in the automotive industry, cruise ships, and industrial manufacturers. Oil contaminated with water is managed as oily waste water utilizing the same testing criteria as used oil.

Used oil and oily water are stored in the used oil tank, Container Storage Unit, or the Waste Consolidation and Stabilization Area. There are no underground tanks or piping located at the facility. All tanks, piping, and ancillary equipment are located within secondary containments.

8.1 Analysis

As stated in 40 CFR 279.10(b)(ii), used oil containing or thought to contain more than 999 ppm total halogens is presumed to be a hazardous waste because it has been mixed with halogenated hazardous wastes listed in Subpart D of 40 CFR 261. Persons may rebut this presumption by demonstrating that the used oil does not contain hazardous waste (for example, by showing that the used oil does not contain significant concentrations of halogenated hazardous constituents listed in Appendix VIII of part 261 of this chapter)

- (A) The rebuttable presumption does not apply to metalworking oils/fluids containing chlorinated paraffin's if they are processed through a tolling arrangement, as described in 279.24(c), to reclaim metalworking oils/fluids. The presumption does not apply to metalworking oils/fluids if such oils/fluids are recycled in any other manner, or disposed.
- (B) The rebuttable presumption does not apply to used oils contaminated with chlorofluorocarbons (CFCs) removed from refrigeration units where the CFC's are destined for reclamation.

8.2 On Specification Used Oil

According to 40 CFR 279.11 used oil burned for energy recovery and any fuel produced from used oil by processing, blending, or other treatment is subject to regulation under 40 CFR 279 if it can be shown that the used oil does not exceed any part of the allowable levels for constituents shown below:

Table I	
Constituents / Property	Allowable Levels
Arsenic	5 ppm Maximum
Cadmium	2 ppm Maximum
Chromium	10 ppm Maximum
Lead	100 ppm Maximum
Flash Point	100 F Minimum
PCB	2 ppm Maximum
Total Halogens	1,000 ppm Maximum

Pursuant to 40 CFR 279.72, a generator, transporter, processor, re-refiner, or burner may determine that used oil that is to be burned for energy recovery meets the specifications of the Table I by performing analyses or obtaining copies of analyses or other information documenting that the used oil meets the above specifications.

Triumvirate Environmental Services, Inc. conducts various site-specific analyses for the various generators which they encounter. Regular generators (i.e., generators that produce used oil or oily wastewater as part of a normal on-going operation) and non-regular generators of used oil and oily wastewaters are sampled and analyzed initially using the Dexsil test or other equivalent test method. Subsequent used oil from the same generators is screened for halogens using a Tekmate halogen detector or other equivalent halogen detector. Results of halogen screening are shown on the used oil manifest. If the halogen detector detects halogens,

the used oil is tested using the Dexsil test. If the halogen detector identifies no halogens, the used oil is accepted.

Every load delivered to a facility by an outside transporter is sampled prior to off-loading the material. Non-frequent generators or one-time generators are sampled prior to removal of material from the site.

Before Triumvirate Environmental Services, Inc., accepts used oil from a generator for the first time, a sample of the oil is examined to determine whether or not the total halogen content is less than equal to 999 ppm. Triumvirate Environmental Services, Inc. utilizes SW-846 Method 9077 "Test for Chlorine in New and Used Petroleum Products" and other equivalent method(s) to determine halogen content. If the oil contains less than or equal to 999ppm total halogens, Triumvirate Environmental Services, Inc. shall accept the material for processing. After the initial receipt, subsequent used oil from the same generators is tested for halogens using the Tekmate halogen analyzer or other equivalent halogen analyzer. If the halogen analyzer does not detect halogens, the used oil is accepted. If halogens are detected by the analyzer, the above-mentioned test method used of initial acceptance of used oil is performed.

If use the used oil contains 1,000 ppm or more total halogens, Triumvirate Environmental Services, Inc. shall forward the sample to a contract laboratory or a permitted hazardous waste facility for analysis by EPA method 8010 or an equivalent method(s) to check for significant concentrations of 40 CFR 261, Appendix VIII halogenated constituents. Significant concentrations of halogenated constituents, as outlined by USEPA, is any single halogenated constituent with a concentration exceeding 100 ppm.

If the used oil does not contain significant concentrations of 40 CFR 261, Appendix VIII halogenated compounds; Triumvirate Environmental Services, Inc. shall accept the used oil. If the used oil does contain significant concentrations of 40CFR 261, Appendix VIII halogenated compounds, Triumvirate Environmental Services, Inc. shall inform the generator that use used oil must be managed as a hazardous waste and routed through the Triumvirate Environmental Services, Inc., network of facilities or other permitted hazardous waste facilities.

9.0 Evaluation of Wastes for Shipment

Before wastes are shipped by the facility, an evaluation of the EPA and DOT regulatory status for each shipment is necessary to prepare it for packaging, labeling, marking, and placarding requirements contained in Subpart C of Part 262 in the 40 CFR, and with the land disposal restriction requirements of Part 268. Waste streams that are being shipped off-site in the same containers as received by the facility (Transfer Waste) do not require further evaluation for shipment because the waste's status has not changed during facility storage. Waste streams that were consolidated and treated at the facility are subject to changes in EPA and DOT status, which are determined as described below.

9.1 Consolidated and Repackaged Wastes

Incoming waste streams of similar type are commingled in larger containers for shipment to off-site treatment or disposal facilities. Incoming waste streams are received in DOT-approved

containers. The consolidation container may be a roll-off box, a dump trailer, a tank trailer, a tote, a 55-gallon drum, or smaller container. Information for the manifest used to ship the consolidation container, as well as the markings used on the container and the transport vehicle, are obtained in the following manner:

EPA Hazardous Waste Codes and Land Disposal Restriction (LDR) Notification

The manifest and the container hazardous waste label will show the waste codes assigned to every waste stream consolidated in the consolidation container or repackaged into a DOT approved outer container. The LDR notification form and the Universal Treatment Standard (UTS) form will show the waste codes and constituents recorded on the inbound shipping documents for every waste stream consolidated in the consolidation container or repackaged into a DOT approved outer container.

DOT Description

Waste streams consolidated in a consolidation container, or repackaged into a DOT approved outer container, may have had different DOT descriptions. The manifest and hazardous waste label for the consolidation container, or DOT approved outer container, may show only one DOT description. This DOT description shall be the generic shipping name that best describes the waste. Wastes that may belong to one or several hazard classes; however, there is always one hazard class that is easily distinguishable and predominant among the ones involved. That hazard class will be shown in the manifest and hazardous waste label. Criteria developed from knowledge of the DOT regulations with respect to the use of the Hazardous Materials Table and knowledge of the definitions of hazard classes are required to determine the resulting DOT description for the consolidated waste.

9.2 Treated Wastes

The container in which waste was treated as described in section 6.3 of this plan will be transported off-site to a subtitle D landfill. All material will be tested as described in section 6.3. All material will be shipped as a non-hazardous waste. Additionally, a one-time notification/certification statement will be provided to the Department.

10.0 Labpacks

The facility receives waste in labpacks. A labpack is a container that holds small containers filled with wastes. The small containers inside a labpack are identified in this plan as inner containers. Inner containers may hold various waste types. Waste removed from a labpack container either remains in the inner container or it may be bulked with other wastes in a 55—gallon, or smaller, drums. Wastes that remain in inner containers are re-packaged individually and placed in a larger container with other wastes to complete a new labpack to be shipped off-site for treatment or disposal. Labpack wastes to be bulked with other wastes are placed in a 55—gallon, or smaller, drum. These bulked drums are then shipped off-site. The same procedures used for approval of shipments of other wastes to the facility are used for accepting

labpacks. A few aspects of the approval process for labpacks deviate somewhat from the acceptance procedure for other wastes. The difference in the approval process for labpacks and other waste is explained as follows.

10.1 Waste Profile Form for Labpacks

Triumvirate Environmental Services, Inc. does not require a waste material profile describing every waste inside a labpack container. A complete labpack inventory form must be submitted with the waste evaluation documents. An example copy of the labpack inventory form is shown in Exhibit II.A.5/6.-4. The inventory form is completed for all lab packs so that it contains the necessary information that would be required on a profile.

The inventory forms provide information not included in a profile for labpacks, as well as other information necessary to process labpacks. A single profile designated as a labpack can include multiple outer containers with different chemicals provided that each outer container has a unique shipping name, waste codes, and chemical inventories. The lab pack generator drum number is shown in the upper right-hand corner of the labpack inventory form. Completed copies of the inventory forms are also required to be included outside the labpack container and with the shipping documents.

Completed lab pack inventory sheets are approved by Triumvirate Environmental Services, Inc. by either approving a unique profile or by signing off on the individual labpack inventory sheets.

10.2 Evaluation of Wastes in Labpacks

The chemicals listed on each inventory sheet for each labpack container are reviewed. A determination for acceptability and compatibility are reviewed per the requirements for bulk containers in the Waste Analysis Plan.

10.3 Classification and Segregation of Wastes in Labpacks

Wastes placed inside a labpack container have to be of the same hazard class or division to comply with DOT regulations. The facility may require a more stringent segregation procedure with respect to the type and amount of material in a labpack container for operational and safety reasons.

11.0 Wastes Permitted and Prohibited

Waste permitted at Triumvirate Environmental Services, Inc. include D, F, P, U, and K codes (40 CFR 261.31, 40 CFR 261.32, 40 CFR 261.33 and 40 CFR Part 261 Subpart C). Wastes prohibited at Triumvirate Environmental Services, Inc. are; forbidden materials in the hazardous materials table, DOT explosives, temperature controlled materials, radioactive materials, listed self-reactive materials, organic peroxides type A and B listed in the HMT and defined at 49 CFR 173.128, and organic peroxides types C, D, E, and F defined in 49 CFR 173.128 and listed in the HMT requiring temperature control.

a. Forbidden Materials in the Hazardous Materials Table

Forbidden Materials: Materials showing the word "forbidden" in column (3) of the 49 CFR 172.101 — Hazardous Materials Table (HMT),

b. DOT Explosive Materials

Materials having a DOT hazardous class 1 (Divisions 1.1, 1.2, 1.3, 1.4, 1.5 and 1.6). are not permitted.

c. Temperature controlled material

Materials that must be maintained at temperatures below the ambient temperature to prevent reactions.

d. Radioactive Materials

Materials having a DOT hazard class 7 are not permitted

e. Listed Self-Reactive Materials

Materials listed in the 49 CFR 173.224(b) as self-reactive materials.

f. Prohibited Organic Peroxide Materials

- (i) Organic peroxides type A and B listed in the HMT and defined at 49 CFR 173.128.
- (ii) Organic peroxides types C, D, E, and F defined in 49 CFR 173.128 and listed in the HMT requiring temperature control.

12.0 Frequency of Analysis

For each hazardous waste shipment, all containers are inspected for color and physical state. Ten percent of the hazardous wastes that are accepted at Triumvirate Environmental Services, Inc. undergo a quality control, quality assurance (QA/QC) analysis. This QA/QC consists of an analysis to confirm matching characteristics such as pH, specific gravity, flash point, halogen content, and or percent water. Verification of waste using an off-site laboratory will be completed when discrepancies are found. Verification will be documented on the form in Exhibit II.A.5/6.-2. The parameters below are used to identify acceptance procedures for Triumvirate Environmental Services, Inc.

- 100 percent visual inspection for color and physical state.
- Ten Percent QA/QC of each waste stream shipment for each generator
- Using a tiered approach for analyzing incoming shipments, whereby all shipments are inspected and non-conformances between shipment and profiles

trigger a mandatory comprehensive analysis to resolve it and update the profile (or create a new one) if needed.

- Documenting tolerance limits for at least one QA QC parameter based on the operating requirements of the facility's management systems. An example is if the pH of an incoming shipment falls outside the regulatory range, causing a regulatory status change for the waste stream
- Visually inspecting lab packs is an acceptable alternative to QA QC for them (e.g. open the containers and verify their contents and packing materials) and reviewing their inventories.

However, the testing requirements may be removed if:

1. Additional hazards are created by inspecting the waste stream Triumvirate Environmental Services, Inc. will not open the container(s). Examples would be inhalation hazards and air-reactive materials.
2. Triumvirate Environmental Services, Inc. prepares and seals the waste for shipment. Triumvirate Environmental Services, Inc. has an ongoing on-site program established with certain generators and it is directly involved in managing the waste collection process. This information is noted on the inspection form and if the drums are received with seals intact, the hazardous waste will not be re-analyzed upon receipt at the facility.
3. Lab-Packs and inner containers packaged by Triumvirate Environmental Services, Inc. will have the packing slip reviewed for DOT and RCRA regulations. The containers will not be opened because they were packaged by trained Triumvirate Environmental Services, Inc. staff.

For every waste stream approved for shipment to the facility, an annual certification will be required from the generator stating that the waste stream has not changed since its approval or previous annual certification. A change in a waste stream has occurred if EPA and DOT regulatory status or safety considerations vary (due to a change in the process generating the waste) from those determined during the approval process. Incoming waste is verified in accordance with procedures outlined in Section 6.0 of this plan.

13.0 Sampling Methods

Sampling operations at the facility are conducted on solid and liquid wastes, which may be in containers, and bulk transport containers. Table II.A.5/6.-2 summarizes the methods used to sample wastes at the facility. Table II.A.5/6.-3 shows additional sampling requirements for general parameters to be tested at the facility. Sampling procedures used at the facility conform to methods specified in Appendix I to Part 261 in the 40 CFR (EPA's SW-846), the American Society for Testing Materials (ASTM) methods, or equivalent.

Initial Analysis of Untreated Waste:

Initial testing of Underlying Hazardous Constituents (UHCs) will be performed by collecting a 5-point composite sample. This sample will be taken before treatment at the client site or at the Triumvirate Environmental Services, Inc. facility. The composite sample will be analyzed for TCLP metals in order to determine the initial metals' concentrations prior to treatment. Wastes that fail to meet UTS for constituents other than the RCRA metals (D004-D008, D010-D011) and mercury will not be eligible for treatment. Soils may be initially tested to determine UHCs and contaminant levels.

Post-Analysis of Treated Waste:

After treatment, all batches will undergo TCLP analysis to verify that the concentrations of RCRA metals are below the Universal Treatment Standards for metals (D004-D008, D010-D011) and no longer exhibit hazardous waste characteristics. A grab sample will be collected for the TCLP analysis. The samples will be taken from each side and the top of the roll-off container.

For soils, the alternative treatment standard may be applied according to 40 CFR 268.49. Post analysis will be conducted to confirm compliance with the 90% reduction (capped by 10X UTS) option, or 10X UTS option. If after the 90% reduction, or the 10X UTS option, the results in a concentration indicate that the waste is still characteristically hazardous for toxicity, the waste will be sent to a Subtitle C landfill for disposal. See Table II.A.5/6-4 for treatment levels.

All treated waste that are de-characterized and meet the appropriate treatment standards will be sent to a permitted Subtitle D landfill. Any waste that fails to meet applicable treatment standards or exhibits hazardous waste characteristics will be shipped to a permitted TSDF for disposal.

14.0 Analytical Methods

The facility utilizes two sets of methods for field testing and for laboratory analysis. One set of the field test methods has been briefly described in the waste verification process of the waste analysis plan. These methods consist of the test paper methods for determining pH value, the floatation test method to determine specific gravity, and the bench test methods for determining compatibility of different waste streams. Visual inspections are also used to determine separation of liquid layers and viscosity of the waste samples.

Analytical test methods used by Triumvirate Environmental Services, Inc. to test for waste parameters are standard laboratory methods as listed in EPA publication SW-846, entitled Test Methods for Evaluating Solid Waste, Physical/Chemical Methods or American Society for Testing and Materials (ASTM) methodologies, or equivalent. Such analyses may be performed at an off-site laboratory, NELAC-approved. A listing of the analytical methods that may be used for pre-approval analysis and received waste inspection is provided in Table II.A.5/6.-3. In any event, characterization of the waste remains the responsibility of the generator.

15.0 Compatibility Test Methods

Testing procedures developed and used by Triumvirate Environmental Services, Inc. to determine compatibility of different waste streams consist of mixing a small sample collected from each waste stream and observing the mixture for reaction signs. The signs of reactions are outlined in Waste Compatibility Test manual at the end of the plan. Waste materials to be processed for consolidation in transport and shipping containers are tested to determine compatibility with the waste materials in the containers. Compatibility test procedures are described the Waste Compatibility and Test Manual. These procedures have been successful in preventing incidents related to mixing incompatible waste.

16.0 Recordkeeping

Triumvirate Environmental Services, Inc. shall comply with the requirements of 40 CFR 262.40 and 40 CFR268.7

Table II.A.4.b.-3

Waste permitted at Triumvirate Environmental Services, Inc. include D, F, P, U, and K codes (40 CFR 261.31, 40 CFR 261.32, 40 CFR 261.33 and 40 CFR Part 261 Subpart C).

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
Generic:		
F001	The following spent halogenated solvents used in degreasing: Tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; all spent solvent mixtures/blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures	(T)
F002	The following spent halogenated solvents: Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane, and 1,1,2-trichloroethane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those listed in F001, F004, or F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures	(T)
F003	The following spent non-halogenated solvents: Xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; all spent solvent	(I)*